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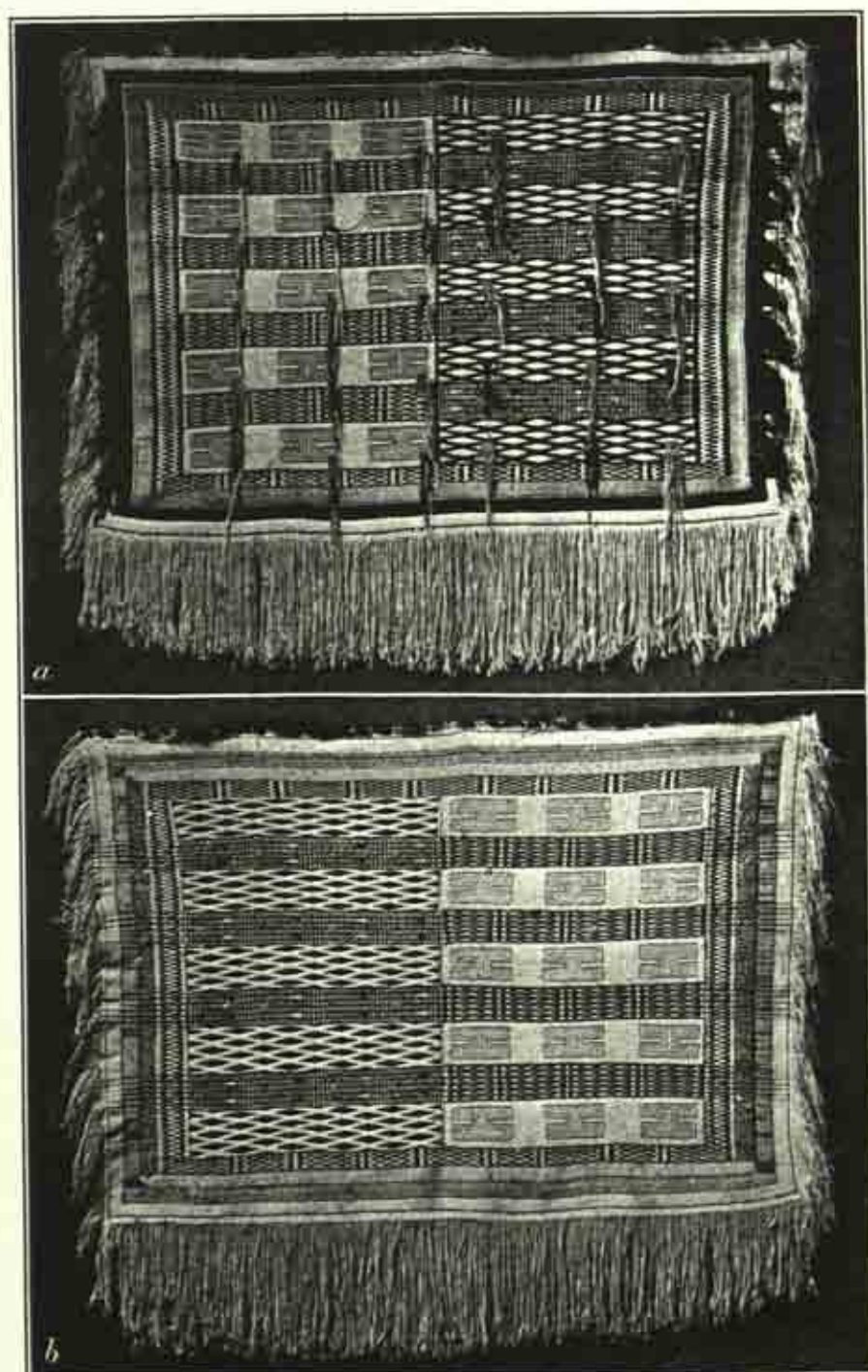
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Ceremonial Blanket of mountain-goat wool brought from the Northwest Coast by Captain Benjamin Swift about the year 1800. *a*, outer side; *b*, inner side.

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NO. 1

A NEW TYPE OF CEREMONIAL BLANKET FROM THE NORTHWEST COAST

By CHARLES C. WILLOUGHBY

THROUGH the generosity of Mr Lewis H. Farlow of Boston and Pasadena, the Peabody Museum of Harvard University has recently acquired a remarkable Northwest Coast blanket. This was found in possession of a grandson of the collector by Dr L. C. Jones of Malden, Massachusetts, who called the writer's attention to this interesting textile.

The blanket was obtained about the year 1800 by Captain Benjamin Swift (1770-1857) of Charlestown, Massachusetts, who, in his younger days, was engaged in the Northwest fur trade. Like most ethnological specimens collected in that region by the early "Boston" traders there is no record of the exact locality where it was procured. It is very probable, however, that it came from the northern coast region of British Columbia.

With the exception of the overcasting of fur at its upper edge the robe is made wholly of mountain goat wool. Unlike the Chilkat blanket no cedar bark was used in the warp. The colors are yellow, a brownish black, and the natural white of the wool.

The color scheme is as follows: the outer band of the border is white with a narrow black line (pl. I, *a*), then a band of black somewhat more than an inch wide; within this and separated from it by a black and white line is a yellow band of the same width. The border of zigzags and bars within the yellow band and enclosing the central field is principally in black and white, the yellow being confined to four spaces upon each of the shorter sides. These

yellow cords continue across the blanket and form the yellow portion of the inner field. This inner field is divided into two parts. The left half is made up of five white bands each having three I-shaped figures in black; and four narrower bands composed of short upright bars and zigzags in black, white, and yellow. The decoration of the right half of the field is composed of five wide bands having a lattice figure in black upon a white ground; and alternate narrower bands consisting of an intricate pattern in black, white, and yellow with a triangle for a motif. There are five horizontal rows of tufts composed of braided black, or black and white strands, six tufts in each row, which decorate the outer side of the central field. Most of these are composed of ends of short wool cords and are not inserted separately. These pendant cords seem to be analogous to the strips of fur which decorate the outer side of skin robes once common throughout the northwest.

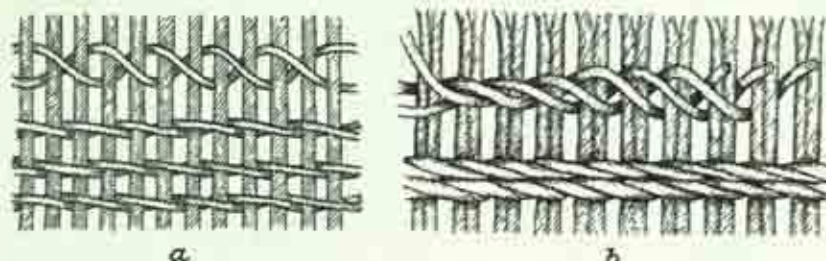


FIG. 1. — Types of weaving, Swift blanket. *a*, Diagonal twined weaving; *b*, three-strand twined weaving.

Most of the patterns which compose the decoration of this robe are common to the Tlingit, Tsimshian, Chilkotin (Athapaskan) and northern Salishan peoples, but they seem to bear the closest resemblance to the basket and embroidery designs of the northern half of this region. For a general account of the symbolism embodied in these designs the reader is referred to the writings of Emmons, Teit, and Fernald, and to the forthcoming paper of Dr. Newcombe on the blankets of the Salish.

The grouping of the various units composing the designs of this robe is excellent and shows a high degree of primitive artistic feeling. The most remarkable thing about the robe however is its

technic; so far as known it shows the highest development of hand weaving among North American tribes. It belongs to an altogether different class from the well known Chilkat blanket in which the various parts of the designs are woven separately by twining double strands of the desired color back and forth across the warp cords until each unit of the design is completed in solid color, the finished blanket being, so to speak, a mosaic in different colors, a technic also common in the variously colored blankets of the Salishan people. The line of junction of the different units composing the design in the Chilkat blanket is covered and outlined by one or more rows of three strand twining (fig. 1, *b*) a weave also present in the Swift blanket, where it is used in forming the I-shaped figures, and as a dividing line between the black and yellow bands of the border, also as a black line near the outer edge of the robe.

The vertical warp cords of the Swift robe are twice as long as the blanket is deep and are looped at the top like the warp in the Chilkat blanket, their lower ends forming a deep fringe. The horizontal woof cords are about half the diameter of those of the warp and are, with few exceptions, continuous, the outer ends of the white and yellow cords being knotted in groups of two and four to form the outer fringe upon either side, while the ends of the black cords form an inner fringe. Unlike the Chilkat blanket, where much of the fringe is composed of inserted cords, this fringe consists wholly of the ends of the warp and woof strands. The ingenious method of finishing the lower part of the woven portion by looping to prevent fraying is shown in fig. 2. Beginning at the left a two-strand twined weaving encloses three cords, the second and third of which are turned upward upon themselves and are again enclosed within the next twist of the double woof strands. In this manner a double fringe is formed, the outer row having twice the number of cords of the inner row.

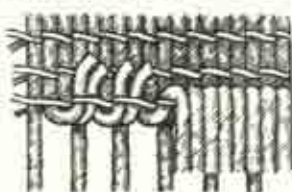


FIG. 2.—Method of finishing lower edge of Swift Blanket.

The narrow white outer band near the edge of the blanket at the top and bottom beyond the black line, and the white band on either side beneath the black fringe, also a portion of the white

ground within the I-shaped figures are of the diagonal twined weaving shown in figs. 1, *a* and 2, while the broader white band at the top and bottom within the black line is of twined weaving with a skip-stitch zigzag pattern. The fields composing the background of the I-shaped figures are in white. They are alike on both sides, and are also in twined weaving with a skip-stitch lattice design (fig. 3), a technic extensively used by the Chilkat in their baskets and basket hats (see also pl. II, *a*, for detail of this and the following types of weaving). The broad outer black and yellow bands forming, so to speak, the frame for the inner design, consist of a new variety of weave (fig. 4, *a*), with an occasional line of three strand twine. This new technic is a double wrapped twining, two smaller cords

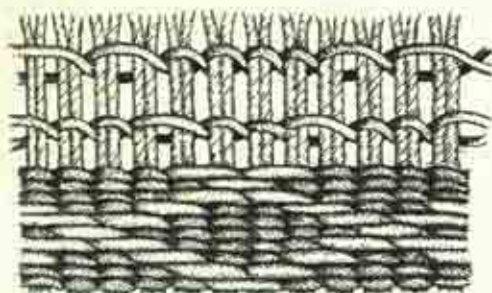
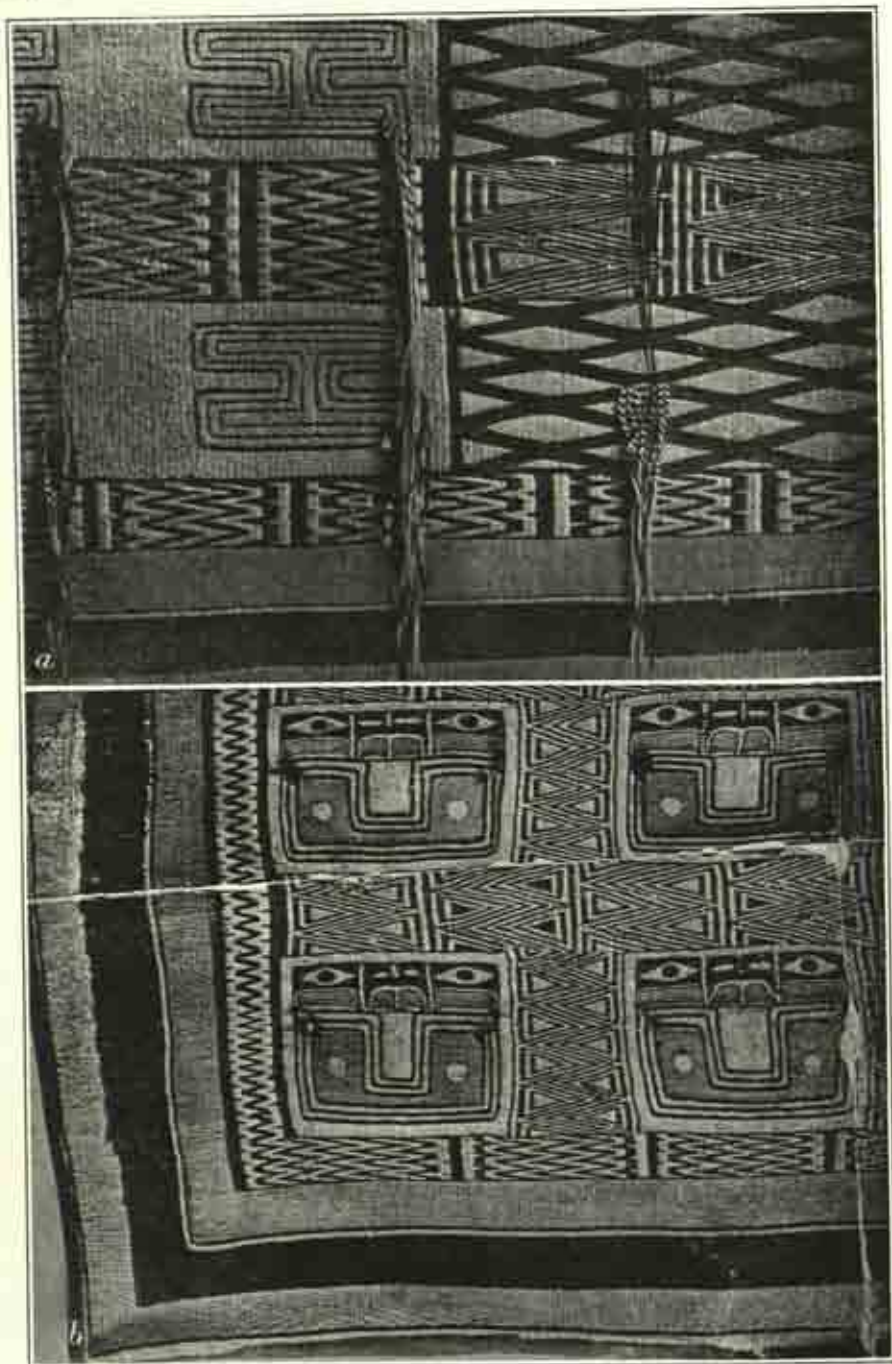


FIG. 3. — "Skip-stitch" twined weaving, Swift blanket.

upon the front occupying the corresponding space of one larger cord upon the back. In this way a fine smooth surface of color is produced, the cloth being as firm as other portions of the blanket where the coarser cords bring out more clearly the com-

plicated patterns. The entire field within this black and yellow border with the exception of the white bars containing the I-shaped figures and an occasional line of three strand twining is made up of zigzag, lattice, and other patterns in mixed twine weaving (fig. 4, *b*), a combination of both diagonal twined and diagonal wrapped twined weaving, which gives the weaver perfect control of the variously colored strands in forming her designs. This is a modified form of a widely distributed method well developed among certain Algonquian and Siouan tribes in the making of cloth bags and is also followed in the construction of pliable basketry by some of the Pacific coast tribes. It reaches its highest development in this garment. Each woof cord is composed of a black and a white strand or a black and a yellow strand and is usually continuous throughout the pattern. The distribution of the yellow strands is clearly shown by



a, Section of Swift Blanket (pl. 1) showing detail

b, Section of fragment of blanket in Museum of Geological Survey of Canada.

the intermediate shade upon the inner side of the blanket (pl. I, *b*) near the outer edges where they are knotted and form part of the fringe. They may also be distinguished in the horizontal band between the two I-shaped figures in pl. II, *a*. The colors of the patterns composing this inner field are reversed, the blanket having a positive and a negative side, a characteristic wanting in most other known Northwest blankets. As will be seen in the

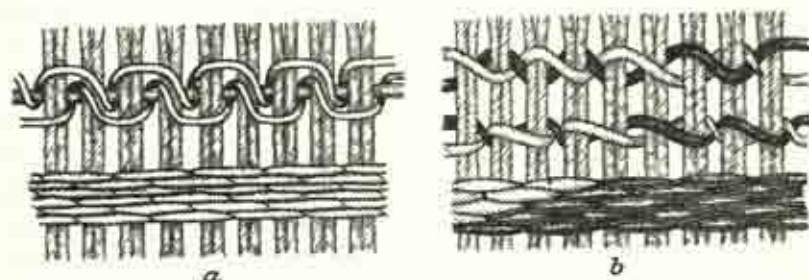


FIG. 4. — Types of weaving, Swift blanket. *a*, Double wrapped twined weaving; *b*, mixed twined weaving composed of diagonal twined and diagonal wrapped twined weaving.

drawing (fig. 4, *b*) each double wool cord is composed of two strands of different colors twined in such a manner that either color appears upon the surface at will. One or two double warp cords are included in each twist of the double wool strands as the pattern may require but the manipulation of the wool strands throughout the entire field is as illustrated in the drawing, the relative arrangement of the two methods of twining there shown varying of course as the pattern changes. Unlike the Chilkat and most other twine woven blankets of the Northwest, where each unit of a design is woven independently in one color, in this blanket the wool cord of two differently colored strands is inserted in one continuous line, each twist forming a portion of the many adjacent figures, a method requiring a high degree of efficiency on the part of the weaver.

In most other examples of mixed twined weaving the two sides of the cloth are technically different. This is owing to the greater tension of some of the strands at the back. In this blanket the strands are drawn with equal tension and the weaving has the same appearance upon either side although the colors are reversed.

Of the many varieties of hair, wool, and vegetal fibre used in former times for weaving textiles by the Indians throughout the United States and in certain sections of Canada, the wool of the mountain goat was especially adapted to this work. Within its restricted area it was fairly abundant, required little preparation for use and took the primitive dyes admirably. It was not always necessary to kill the animal to secure the wool, for in the spring and summer when the coat is being shed "every bush and tall dry weed above timber line is festooned with tufts of wool that can be picked off in handfuls."

Goat wool formed a considerable article of commerce and was exchanged by the interior tribes with the people of the coast for shells and other coast products. Blankets of goat wool or of dog fleece were in use from the Columbia River, where they are recorded by Lewis and Clark, to the Chilkat in Alaska. In certain sections of the southern region the hair of the dog, and perhaps of other animals, and the down of birds were also used, either with or without the addition of goat wool. The dog was of a woolly haired variety extensively bred for its white fleece, from which was woven a considerable part of the clothing of the people of the Puget sound region and adjacent territory. The fleece was removed from the live animal, probably with shell knives. Vancouver, doubtless the first European to come in contact with the Puget sound tribes, thus describes this animal.¹ "The dogs belonging to this tribe of Indians were numerous, and much resembled those of Pomerania, though in general somewhat larger. They were all shorn as close to the skin as sheep are in England; and so compact were their fleeces that large portions could be lifted up by a corner without causing any separation. They were composed of a mixture of a coarse kind of wool, with very fine, long hair, capable of being spun into yarn. This gave me reason to believe that their woollen clothing might in part be composed of this material mixed with a finer kind of wool from some other animal, as their garments were all too fine to be manufactured from the coarse coating of the dog alone. The abundance of these garments among the few people we met with, indicates the animal from whence the raw material is procured to

¹ Vancouver's *Discovery of Puget sound*, Meany reprint, p. 136.

be very common in this neighborhood; but as they have no one domesticated excepting the dog, their supply of wool for their clothing can only be obtained by hunting the wild creature that produces it; of which we could not obtain the least information."

On another occasion he writes of meeting about 200 Indians "some in canoes with their families, others walking along the shore attended by about 40 dogs in a drove, shorn close to their skin like sheep."¹ Of the clothing of this region he writes, "Their native woolen garment was most in fashion, next to it the skins of deer, bear, etc.; a few wore dresses manufactured from bark, which, like their woolen ones were very neatly wrought."²

There are two old Salishan blankets in the Peabody Museum at Cambridge. These were collected by Roderick McKensie previous to 1819. The first, from Fraser river, is in coarse diagonal twined weaving, a technic shown in figs. 1, *a* and 2. It seems to be made principally of goat wool. It is fringed but not otherwise ornamented. The second specimen is made of dog hair and bird down, with perhaps some goat wool, and is twilled woven. The ornamentation consists of narrow brown lines a few inches apart, crossing each other at right angles. Like most blankets of this southern region it is fringed.

A blanket from the lower Fraser is illustrated in Dr Newcombe's recently published guide to the anthropological collection in the Provincial Museum at Victoria. Its central field is twilled woven. It is decorated with bars composed of diamond-shaped figures in black and white. The decoration of the border consists principally of groups of black and white diamonds intersecting. These are apparently in simple twined weaving, the patterns being in solid color. A few other old dog hair or goat wool blankets are known which may be attributed to this southern region, the finer specimens being in various colors, with patterns consisting of squares, zigzags, and other simple figures. Technically the weaving is similar to that of the Chilkat robes, most of the designs being in solid color alike on both sides. There are two blankets of this type in the National Museum, one of which was collected by Wilkes. Dr

¹ Vancouver's *Discovery of Puget Sound*, Meany reprint, p. 162.

² *Ibid.*, p. 122.

Newcombe has kindly sent the writer photographs of a blanket and a rug of the same type of weaving from the lower Fraser river. These will be described in his paper to be published by the Field Museum.

The Makah¹ and neighboring Salishan tribes made blankets of hair or wool combined with bird down. There is a beautiful specimen of this type in the National Museum. The inner field is plain, the cords of which it is woven being nearly concealed by fluffy down caught into the strands. The inner field of the finished fabric has much the appearance of being composed wholly of down as the woven portion shows but little. The garment is finished with a wide fringed border without the addition of down, woven in pleasing colored patterns. The above blankets belong to an altogether different class from the Swift robe.

Captain Cook writes as follows of the blankets of the Nootka:² "They are of different degrees of fineness, some resembling our coarsest rugs or blankets and others almost equal to our finest sort, or even softer, and certainly warmer. The wool of which they are made seems to be taken from different animals, as the fox and the brown lynx, the last of which is by far the finer sort; and in its natural state differs little from the color of our coarser wool, but the hair with which the animal is also covered, being intermixed, its appearance when wrought is somewhat different. The ornamental parts or figures in the garments, which are disposed with great taste, are commonly of a different color, being dyed, chiefly either of a deep brown, or of a yellow; the last of which when it is new equals the best of our carpets as to brightness."

Dr Newcombe has also forwarded a photograph of a somewhat dilapidated blanket, a portion of one end only being shown. This was obtained about the year 1793 and is now in the British Museum. The inner field consists of a lattice design with diamond-shaped figures in black and white within the spaces formed by the cross-bars. There is an inner border of the zigzag design and an outer border of yellow (?), black, and white bands as in the Swift specimen. This blanket is undoubtedly of the same origin as the Swift

¹ Charles Wilkes, *United States Exploring Expedition*, vol. iv, p. 488.

² Cook's *Voyages*, vol. vii, p. 325, Admiralty Edition.

robe, the types of weaving being the same in the two specimens. They differ essentially from the lower Fraser blankets above noted. A portion of a third blanket of the same origin as the Swift robe is in the museum of the Geological Survey of Canada. This has been made into a tunic or shirt as is often the case with fragments of ceremonial robes that have been cut up at potlatches. A section of this is illustrated in pl. II, *b*. The ground is composed of zigzags and triangles like those upon the Swift robe and the technic of this portion of the two blankets is the same. Four conventionalized faces of the usual Northwest type appear at regular intervals, and below each is a design resembling one half of an I-shaped figure, such as appears on the Swift robe, split vertically through its center and turned upon its side. These faces and the latter figures are apparently woven in the same manner as those in the Chilkat blanket. There were originally tufts of pendant cords upon the surface, as will be seen by a close examination of the photograph. The curator of the museum could give the writer no information as to the origin of the specimen.¹ These three blankets doubtless occupy a geographical position between the well known Chilkat blanket of the north and the blankets of the Salishan people of the south. Technically they form a class by themselves. The only other examples of the peculiar type of mixed twined weaving shown in these blankets thus far known to the writer occur in the wool border of a cedar bark robe in the British Museum and also in the lower portion of the borders of very old Chilkat blankets. It is an interesting fact that the pattern of these borders is also like certain portions of the ground of both robes shown in plate II. Take for instance the narrow long section above the two upper conventionalized faces in figure *b* of this plate and we have a close reproduction of this border, both in technic and design.

The cedar bark robe above referred to is illustrated on plate xxiv, figure 2, of Emmons' memoir on the Chilkat blanket, and is

¹ The photograph from which the illustration (pl. II, *b*) was reproduced was kindly furnished the writer by the American Museum of Natural History, New York City. A drawing of this blanket is also shown on p. 388, fig. 581, *b*, of Emmons' paper on the Chilkat Blanket, *Memoirs of the American Museum of Natural History*, vol. iii, pt. iv.

supposed to have been obtained from the western coast of Vancouver island. If it came from that region, as seems probable, it is doubtless of Wakashan origin. In the Chilkat blanket the same kind of mixed twined weaving, forming a small section of the zig-zag design above noted, appears on the lower portion of the borders of a beautiful old specimen in the Peabody Museum at Salem obtained previous to 1832, and also on another old specimen in the Peabody Museum of Harvard University. This mark seems to be of traditional significance. In later blankets the mark has degenerated into a simple binding of black and yellow cords. The same pattern also occurs in the center of the Fraser river rug above referred to, but the weaving is of a different kind. It seems probable that the Swift robe is neither Tlingit nor Salishan. It undoubtedly came from the mainland and probably from the northern coast region of British Columbia, but more data are necessary before it can be definitely located in any section of this region. The writer will be glad to hear of other specimens of this type of blanket which may be known to readers of this paper.

PEABODY MUSEUM, HARVARD UNIVERSITY,
CAMBRIDGE, MASSACHUSETTS.

AN INTRODUCTORY PAPER ON THE TIWA LANGUAGE, DIALECT OF TAOS, NEW MEXICO¹

By JOHN P. HARRINGTON

NO fact better illustrates the present fragmentary condition of our knowledge of American aboriginal languages than that the tongues of the Pueblo Indians of the southwestern United States have until now remained uninvestigated. Powell in his *Indian Linguistic Families of America*, published in 1891,² is forced to base the classification of these languages on a few manuscript vocabularies collected in a haphazard manner by various persons at various times. These vocabularies are at present deposited in the archives of the Bureau of American Ethnology at Washington. The unreliable character of these records and of any classification based on them is best appreciated by one who, like the writer, has had opportunity to compare them directly with the spoken languages. More recently a few Pueblo texts have been published. We possess a specimen of the language of Isleta pueblo recorded by Gatschet,³ a rendering of some Christian hymns and doctrines in the Laguna language by the missionaries Bercovitz and Paisano,⁴ and a record of several Zuni songs made by Mrs. Stevenson.⁵

No study of the phonetics or structure of any of the Pueblo languages was however attempted, as far as we know, previous to the investigations which have been conducted during the past two years by the School of American Archæology under the Archæological

¹ Presented at the Boston meeting of the American Association for the Advancement of Science, December, 1909.

² Powell, *Indian Linguistic Families of America North of Mexico*, 7th Ann. Rep. B. A. E., Washington, 1891.

³ Gatschet, A Mythic Tale of the Isleta Indians, New Mexico, *Proc. Am. Philol. Soc.*, Dec., 1891, pp. 208-218.

⁴ Bercovitz [and Paisano], *Hymn Book and Appendix in the Laguna Indian Language*, Laguna, New Mexico.

⁵ Stevenson, *The Zuni Indians*, 23rd Ann. Rep., B. A. E., Washington, 1904, pp. 68-72, 73-88, 156, 486, 583.

Institute of America. Under the auspices of this School the author of the present paper has since July, 1908, been engaged continuously in a study of the group of obviously related languages spoken in the Rio Grande drainage area of New Mexico which Powell has termed the Tanoan.¹

THE TANOAN LANGUAGES AND TAOS PUEBLO

In the area drained by the Rio Grande which is now known as northern and central New Mexico there are at present eighteen Indian Pueblos. We follow the Indian custom in enumerating these villages, beginning with those farthest north or northwest: Taos, Picuris, San Juan, Santa Clara, San Ildefonso, Nambe, Pojoaque, Tesuque, Cochiti, Santo Domingo, San Felipe, Jemez, Sia, Santa Ana, Sandia, Isleta, Laguna, Acoma. In addition to these should be mentioned Pecos pueblo, located on the Rio Pecos and abandoned in 1837. There are at Jemez a few aged persons who still retain a knowledge of the dialect of Pecos. Four villages whose inhabitants migrated from this area in historic times should also be included here. These are: Senecú, Isleta del Sur, and Socorro, established at the time of the Pueblo Indian revolt of 1680 south of the present city of El Paso, Texas, and Hano, founded in 1700 beside the Hopi villages of northeastern Arizona.

The speech of each pueblo is practically a unit, variations presented by division, clan, family, or individual being here ignored; but no two of the pueblos have the same dialect, although the degree of linguistic diversity varies greatly.

Omitting Cochiti, Santo Domingo, San Felipe, Sia, Santa Ana, Laguna, and Acoma, seven villages whose language forms a close unit and has been called Keresan, our preliminary survey leads us to suggest the following classification of the dialects of the remaining pueblos.

A. Tiwa language:

- (1) Taos and Picuris dialects.
- (2) Sandia, Isleta, and Isleta del Sur dialects.

¹ Pronounce Tánoan; adapted from Tano, the Mexicanized form of a Tewa name applied to the southern Tewa formerly settled about and south of the present Santa Fé, New Mexico.

- (3) Piro dialect.
- B. Towa language :
 - (1) Jemez dialect.
 - (2) Pecos dialect.
- C. Tewa language :
 - (1) San Juan, Santa Clara, San Ildefonso, Nambe, Pojoaque, Tesuque, and Hano dialects.

The dialects of Sandia, Isleta, and Isleta del Sur have for three centuries been known to the Mexican population of the region by the name Tigua, obscure in origin. A more continental spelling is Tiwa. The term Tigua or Tiwa has also become commonly applied to the closely related idioms of Taos and Picuris. In a recent paper,¹ the writer suggested that the use of this name be extended still more widely to include the Piro dialect. Thus all the dialects of group A would be designated as Tiwa.

It was also suggested that the dialects of group B be known as constituting the Towa language, since the term *tôwa*, meaning "native," is applied by the Jemez and Pecos to their own language.

The language of group C with its numerous village dialects is known to both Indians and whites as Tewa, this being the word in that language equivalent to Jemez and Pecos *tôwa* and likewise meaning "native."

Thus we recognize three languages, Tiwa, Towa, and Tewa. The diagram on the following page shows the relative sizes and positions of the areas occupied by these three languages at a period soon after the coming of the whites.




Roughly speaking, the languages still obtain in the areas in which they were then spoken, the Piro dialect of Tiwa forming a notable exception. Piro was formerly spoken in the country immediately south of that held by the ancestors of the Sandia and Isleta. During the eighteenth and nineteenth centuries the dialect was heard only in the neighborhood of El Paso, and is probably now extinct.

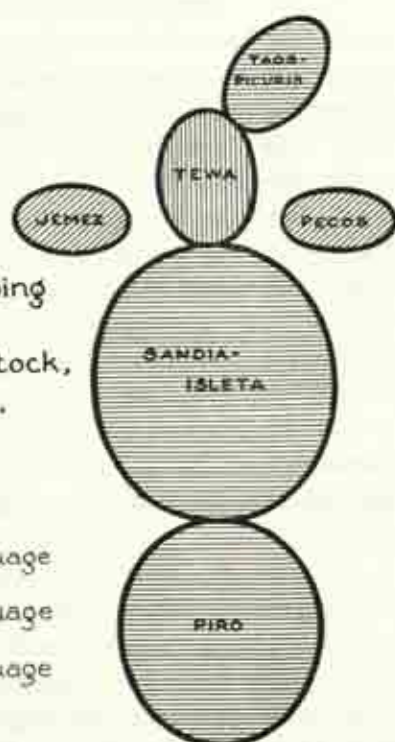
The population of Taos like that of the other pueblos is composite in origin. Tradition states that long ago a number of

¹ Harrington, Notes on the Piro Language, *American Anthropologist*, Oct.-Dec., 1909, pp. 563-594.

clans speaking various languages confederated to form the Taos people, and that this people throughout its subsequent history in times of war and peace has grown by adopting individuals or groups of individuals speaking alien tongues. Generations ago, it is said, very many Ute Indians were incorporated into the Taos tribe as the result of a war. Probably such tradition faithfully reëchoes the

DIAGRAM
Showing Tentative Grouping
of the Tongues
of the Tanoan Linguistic Stock,
Rio Grande Drainage,
New Mexico,
about 1600, A.D.

-  Tiwa Language
-  Towa Language
-  Tewa Language



prehistory of Taos. It is certain that the village has long been the melting pot of peoples and that these peoples spoke various languages. The conquering and surviving tongue is Tiwa, a Tanoan language.

Taos Tiwa exhibits considerable divergence from the Sandia-Isleta-Isleta del Sur variety of the language, perhaps indicating long separation. An Isleta man who recently visited Taos preferred to conduct his conversation in Mexican jargon, fluent speech in the dialect of Taos being quite unintelligible to him. And yet com-

parative study reveals the closest relationship between the two dialects. When Taos and Picuris people talk together, Tiwa is used, these two dialects differing as little from one another as do the dialects of the Tewa pueblos. Piro possibly differed as widely from each of the other subgroups as these differed from each other.

A comparative study of the three languages will prove most interesting. Tiwa, when compared with the adjacent Tewa, appears to represent both phonetically and structurally a more archaic form of Tanoan speech. In fact, the relation of Tiwa to Tewa seems not unlike that which Von der Gabelentz would have us believe Tibetan bears to Chinese. Final consonants still retained in Tiwa, have in Tewa decayed or disappeared. Thus Taos *nam-*, Tewa *naⁿ*, earth. Diphthongs prominent in Tiwa appear to have become in Tewa simple vowel sounds. Thus Taos *sān-*, Tewa *seⁿ*, man. Open vowels in Tiwa are generally represented in Tewa by close vowels. Thus Taos *pa*, Tewa *pe*, thigh. The tongue-raised vowels of Tiwa exhibit in Tewa less raising of the tongue. Thus Taos *t^oō*, Tewa *t^aa*, to live. Many formative elements which may not be omitted in Tiwa do not make their appearance in Tewa at all. Thus Taos *'āⁿ māⁿ hūā*, Tewa *'uⁿ māⁿ*, you two are going; Taos *sānā na*, Tewa *seⁿ*, man. A Tiwa sentence when translated into Tewa usually contains fewer sounds and fewer syllables and requires less strenuous motions of the organs of speech.

A marked musical accent has developed in Tewa, possibly as an accompaniment of some of the monosyllabic tendencies described above. This accent is as noticeable and, to the understanding of many words, is as indispensable as are the "tones" of Chinese. For example, the cognates of Taos *p'a*, moon, *pta*, trail, and *p'ā*, water, are respectively Tewa *p'o*, moon, *p'o*, trail, and *p'o*, water, distinguishable by their musical pitch only. The vowels of the three Tewa words seem identical in quality, length, and stress. The difference lies in the musical pitch, which in *p'o*, moon, is high; in *p'o*, trail, is lower; in *p'o*, river, is low and falling. Such pitch accents of Tewa words are difficult for the foreign ear to recognize; it is almost impossible for adult foreign organs to correctly reproduce them. Musical accent is present in Tiwa, as it is in all languages, but is not noticeable and in no case appears essential to the

interpretation of a word. The writer knows of no other American language in which features saliently characteristic of Chinese are developed to such a remarkable extent as in Tewa. There are many tendencies in language, and those which result in monosyllabism are as yet imperfectly understood. The Tanoan languages offer a promising field for the study of the growth of these tendencies.

Among various other developments characteristic of Tewa which have not been discovered in the other Tanoan languages, ablaut deserves mention here. Ablaut appears in Tewa noun and adjective elements. Three series occur: *u* — *e*, *u*^{*} — *e*^{*}, *a* — *i*. The *u*, *u*^{*}, or *a* grade indicates large objects; the *e*, *e*^{*}, or *i* grade indicates small objects. Examples are: *hu*, arroyo, *he*, arroyito; *mbu*^{*}, big bend, *mbe*^{*}, little bend; *p^{*}agi*, large and flat *p'igi*, small and flat. Prolonged search has failed to reveal any similar phenomenon either in Tiwa or Towa.

The German linguist Von der Gabelentz mentions an invention of ablaut in the baby-talk of his little nephew which forms a striking parallel to the Tewa usage. This child expressed itself largely in a language of its own making. *Lakail* was the name applied to an ordinary chair, *lukull* meant great arm-chair, *likill* was used to signify little doll's chair. Again *mem* was the word for watch or plate, *mum* referred to a large plate or a round table, *mim* was the name for the moon, while *mim-mim-mim-mim* meant stars.¹

The Towa language of Jemez and Pecos, as judged by some of its developments, appears to hold a position intermediate between Tiwa and Tewa.

Inasmuch as Tiwa is apparently the most archaic of the Tanoan group as well as the simplest phonetically considered, an outline of that language is here presented, the dialect of Taos having been chosen. The Taos, as is usual, consider themselves superior to all other Indians. They have infinite disdain for their southern neighbors, the Tewa, who are regarded as having perverted customs and as speaking a degenerate form of the Taos language. They pride themselves especially on occupying the highest and most northerly of all the Pueblo villages, and the tradition that the Pueblo Indians migrated originally from the north is so impressed upon their minds

¹ Quoted by Chamberlain, *The Child*, New York, 1907, p. 134.

that this location alone seems to them sufficient proof that they are the most pristine and uncorrupted of Pueblo villagers.

Taos Indians usually speak of their pueblo as *Tōā t'a* when they are in or above it. When below the village *Tōā bā* is used. *Tōā* is the equivalent of Tewa *te*, houses, village; the affixes have locative force. It is said that an old name of the village is *'īā tā-p'at t'a* or *'īā tā p'at bā*, meaning the place of the red (*p'at*) willows (*'īā tā*). The people of Taos commonly call themselves *Tōā t'a-t'at n ā mā*, signifying literally the people who live at the village. The form Taos is perhaps a Mexican corruption of *tōā*.

The Taos informants were three in number: Manuel Mondragon, José López, and Santiago Mirabal. Most of the material was obtained from the informant first named. His Indian name is *Tōō l tō*, Sun Elk. He is a patient fellow and is deeply interested in the recording of his language.

PHONOLOGY

General Phonetic Character

The impression which the Tiwa language makes on the ear is smooth and pleasing. There are no harsh consonants and no combinations of consonants except those caused by elision. The stops are gently exploded. The sounds *l*, *m*, and *n* are frequent. The oral vowels are clear and sonorous. The orinatal vowels have little of the unpleasant nasal resonance which results when the velum is drawn far forward. There is little in the pronunciation which reminds one of the tense, impure vowels of Towa; of the choking sounds, excessive nasalization, and remarkable development of musical accent which characterize Tewa; of the coarse, crackling, half voiced quality of Keresan; or of the voiced and unvoiced mixed vowels prominent in Ute and in some other Nahuatl dialects.

The Individual Sounds

It appears that the Taos distinguish in their speech eleven vowels and twenty-five consonants, making in all thirty-six etymologically distinct individual sounds. These sounds vary considerably according to their setting. Yet with a little practice they can be recognized by the speaker of a European language even when run together in rapid speech, and can be readily imitated.

The vowels are presented in the customary form of the vowel triangle. The contact positions of the consonants are given in the order in which these are visited by the exhaled breath. Beside each sound stands in parenthesis an Indo-Germanic word containing a nearly equivalent sound.

Vowels

Orinasal vowels :

a* (Fr. *angle*, angle)

â* (Fr. *dindon*, turkey) â* (Fr. *dindon*, turkey)

i* (Skt. *raçmîûr*, rays)

u* (Skt. *sûnâûr*, sons)

Oral vowels :

a (Eng. *father*)

â (Fr. *là bas*, down there) â (Fr. *là bas*, down there)

i (Eng. *machine*)

u (Eng. *rule*)

ö (Ger. *schön*)

Consonants

Semi-vowels :

j (Eng. *hallelujah*)

w (Eng. *away*)

Larynx consonants :

' (may open Eng. vowel beginning words)

h (Eng. *how*)

Back of tongue consonants :

k (South Ger. *katze*, cat)

k' (Eng. *took off*)

x (Ger. *ach*)

g (Eng. *go*)

k^a (Eng. *quarter*)

x^a (North Eng. *what*)

Front of tongue consonants :

t (South Ger. *tag*, day)

t' (Eng. *hat off*)

t^a (Eng. *sweat-house*)

d (Eng. *do*)

t^a (South Ger. *zahn*, tooth)

t'' (Eng. *hats off*)

s (Eng. *so*)

l (Welsh *llai*, clay; Eng. *pathless*)

l (Eng. *love*)

n (Eng. *now*)

Lip consonants :

p (South Ger. *poet*, poet)

p' (Eng. *cap* off)

p^o (Eng. *sheep-horn*)

b (Eng. *boy*)

m (Eng. *man*)

Voiced and voiceless sounds are not as clearly distinguished as in English.

The orinasal, i. e., mouth-nose, vowels are pronounced with the velum hanging freely as when one breathes through mouth and nose simultaneously. In their production the voiced breath escapes through both mouth and nose. The calls of the lower mammals are most frequently orinasal. The birth-cry of the human babe is *ā*^a, and a similar sound is heard in the groaning of the adult. Vowels of this class are very numerous in Tanoan.

The oral vowels are produced with the velum drawn toward the rear wall of the pharynx so as to allow little or none of the voiced air to escape through the nose. The sound *ō* has no counterpart among the orinasal vowels. It resembles weakly rounded German *ō*. It sounds like the "impure vowel" of Shoshonean dialects which has been variously written *ō*, *ö*, *ū*, *ü*.

Vowels are accompanied by much breath, especially at the close. Vowels following *h*, *x*, *ʃ* and *p^o* are more breathy than others. A special series of aspirated vowels has not been detected.

A voiceless vowel of the quality of *a*^a results when *a*^a is most completely elided within a sentence.

ɟ and *w* differ from *i* and *u* respectively only in being much shorter. They have no more fricative quality than do the vowels which they resemble.

The explosion produced by closing and then suddenly opening the glottis is one of the commonest sounds in the languages of the world. This sound is heard in coughing and grunting. In English it may occur as an opener of vowels commencing a word. It is unnaturally audible between the words at and all in a current affected

pronunciation of the phrase at all which distinguishes at all from a tall. This sound may be called the glottal catch or the glottal stop. In Taos it is slightly audible before all syllables which do not begin with any other consonant. It also combines with *k*, *t*, *p*, and *t'* to form *k'*, *t'*, *p'*, *t''*, described below. It is not heard as a vowel closer.

The consonant *h* is a weak whisper caused by glottal narrowing. It has the timber of a contiguous vowel or vowels.

There are five series of mouth stops: (1) weakly voiced, *k*, *t*, *t'*, *p*; (2) with simultaneous closure of the glottis, *k'*, *t'*, *t''*, *p'*; (3) with following aspiration, *k''*, *p''*; (4) with simultaneous *u* position, *k''*; (5) weakly voiced with long and firm contact, *g*, *d*, *b*. There is perhaps still another series, — long and firm *k*, *t*, *p*, which have been observed only as a result of the elision of the syllables *ga''*, *da''*, *ba''* respectively. There are indications that the fricative continuants *x* and *x''*, now lacking complete closure, are respectively derived from earlier *k'* and *k''*, thus making series (3) and (4) more complete; see below. However, *ga''* occasionally assumes the form *xu*, suggesting a connection between *x* and *g*.

The stops *k*, *t*, *t'*, *p* are very gently exploded as in South German;¹ voice apparently does not cease and is prominent sooner after the explosion than in the case of English *k*, *t*, *p*. The spellings *k_g*, *td*, *pb* would suggest the character of the sounds.

In pronouncing *k'*, *t'*, *t''*, *p'* a closure of the glottis seems to occur simultaneously with the assuming of the stop position by the organs of the mouth. The larynx is then slightly raised, compressing the air between the glottis closure and the mouth closure. As a result of the formation of this small chamber of compressed air the mouth explosion when it occurs has slight force and differs in acoustic effect from a mouth explosion the air pressure of which is produced directly by the lungs. A slight explosion in the larynx resembling the ordinary glottal stop described above follows immediately after the mouth explosion. Some of the makers of Tiwa vocabularies have omitted to write initial *k'*, *t'*, *p'*. They probably heard only the larynx explosion or glottal stop, which as elsewhere

¹This pronunciation is illustrated by the much quoted saying that King George I of England was fond of "boetry and art."

they neglected to record. Thus "á," water, instead of *p'á*. A similar series of stops existing in the Mayan languages of Mexico and Central America have been termed "letras heridas," wounded letters. Perhaps the "fortes" and "velars" of some other American languages are in reality such sounds. The Georgian language of the Caucasus possesses stops which sound exactly like these of Tiwa. The nearest English approximates are contained in such combinations as *took off*, *hat off*, *hats off*, *cap off*, when the vowel of the second word is opened by the glottal stop. A good name for the consonants of this series would be *grunted stops*.

T°, *p°* differ from *t*, *p* respectively by being accompanied by more breath. They are not harsh sounds, but the breathy glide following the explosion is very audible. The sign ° is adopted from Bell's Visible Speech.

As remarked above, *x* seems to belong to this series, but is now a continuant resembling German *ch*. The corresponding Tewa sound is *k°*. Tewa may here be more retentive than Taos. If it should be proved that Taos *k°* has become *x* while *t°* and *p°* have remained unchanged, the development is paralleled in classic Greek, in which it is believed *χ* became a continuant earlier than did *θ* and *φ*.

K° and *x°* are single sounds, being simultaneous pronunciations of *k* and *w*, and *x* and *w* respectively.

G, *d*, *b* have long, firm closure as in English. When *ga°*, *da°*, *ba°* are elided the resulting *k*, *t*, *p* have this same kind of closure but less voice, although they have been written in this paper exactly like the *k*, *t*, *p* of different quality and origin.

S and *ʃ* are often weakly voiced. The *s* position is with tongue touching the upper side teeth and gums, allowing breath to escape across the front teeth. The *ʃ* position is in a way the reverse of that of *s*. The tongue is pressed against the upper front teeth and gums, but lets breath escape across the side teeth. Usually more of the sound is produced at one side of the mouth than at the other. The sound resembles Welsh *ll*, less closely English *lll*. It has usually been written *s* by vocabulary makers. In Tewa, both Tiwa *s* and *ʃ* are represented by a single *s*-like sound.

The contact of *l*, *n*, *m* is long and firm.

Phonetic Processes

The Tiwa syllable consists of a consonant plus a vowel or diphthong. Syllable-closing consonants and apparent combinations of consonants are due to elision; see below.

Combinations of vowels are, however, frequent. Peculiar diphthongs are largely responsible for the strange impression which the language makes on our ear. Each Taos diphthong consists of two rapidly uttered and equally stressed vowels so welded together as to form a single syllable. The duration of the diphthong is not greater than that of an undiphthongized vowel. Therefore in writing these diphthongs a breve has been placed over each of the constituent vowels. The chief difference between Taos diphthongs and those of Indo-Germanic languages seems to be this, that in the former each of the vowels is pronounced with equal force, while in the latter one element invariably bears greater stress than does the other. The majority of the Taos diphthongs admit of no analysis into simpler morphological elements, but correspond as wholes to simple, undiphthongized vowel sounds in the Towa and Tewa languages, in which no diphthongs are known to occur. Compare Taos *tāā*, Tewa *su*, arrow; Taos *p'īā*, Towa *p'ē*, mountain. An examination of words borrowed by one Tanoan language from another, mostly personal and place names, makes it seem probable that the diphthongs of Taos Tiwa are not the result of recent vowel-breaking or of combinatory processes, but are rather a feature of archaic Tanoan speech preserved in Tiwa. The development in Towa and Tewa would be comparable to that which rendered the Slavic languages of the Indo-Germanic stock diphthongless. A few of the Tiwa diphthongs, however, clearly originate in a juxtaposition of vowels occasioned by the grammatical processes of the language. Thus *'tā mu*, they 3 + animate them 3 + inanimate saw. But one is also permitted to say *'i u mu*. The following diphthongs occur in the Taos material gathered: *ā'i*, *ā'a*, *ā'i ā'i*, *āi*, *āū tāā*, *tā*, *tā*, *āi*, *āā*, *āi*, *āā*, *āi*.

Taos syllables are pronounced with force so nearly equal that stress accent has not been indicated. Musical accent is probably of even less importance than in English.

Like other speech, that of Taos is slurred or elided. There lives

at the pueblo a man of French and Mexican descent who has a good knowledge of the language, but as often as he speaks it the Indians are greatly amused, chiefly it is said because he does not elide correctly.

The law of elision requires that the syllables *ja*°, *wa*°, *xa*°, *ga*°, *da*°, *la*°, *na*°, *ba*° *ma*° appear only before a pause, usually only at the end of a clause or sentence. Within clauses and sentences they assume respectively for reasons which further study must explain either the forms *ju*, *wu*, *xu*, *du*, *lu*, *mu*, *bu*, *mu*, or *i*, *a*, *k*, *k*, *t*, *l*, *n*, *p*, *m*. It should be noted that *a*° of all the vowels most nearly approximates the Tiwa articulatory basis, and that a non-syllabic unvoiced vowel of the timber of *a*°, which has not been written, can be perceived after most completely elided forms of these syllables. The *n* forms are remarkable. This law gives rise to all final consonants and groups of consonants.

Ablaut or other regular vowel modification has not been observed except perhaps in the case of the elided elements just referred to.

Rapidly pronounced vowels differ in quality from the normal vowels of careful speech. They are apt to imitate the timber of vowels of contiguous syllables. This phenomenon is known as assimilation. Assimilation of consonants is heard even in slow speech. Thus by progressive assimilation, *t'ō n t'a*, for *t'ō m t'a*, where she lived; by retrogressive assimilation, *'a n n i l a t'ō a m ā*, for *'a n w i l a t'ō a m ā*, they 2 went to get wood, it is said.

Dissimilation of reduplicated syllables is presented in *t'itit'i*, make a s-s-s sound.

An interesting permutation of consonants is the replacement of *k*, *t*, *t'*, *p* by *k'*, *t'*, *t''*, *p'* respectively in certain verb forms. This suggests how such forms as Nahuatlán *p'a* and Tanoan *p'á*, *p'o*, water, may be related.

Reduplication is very seldom resorted to by the language. Only three reduplicated forms were encountered in the material collected. These are: *xu l xu l ta*, *'a na*, round dance (*ta, 'a na*, dance); *t' a l t' a l ' ā na*, rattle; *t'itit'i*, make a s-s-s sound. Repeated activity is denoted in each case.

MORPHOLOGY

Roots and Affixes

Tiwa like other languages is an exceedingly complex structure built of more or less firmly agglutinated elements. These elements are the units of the structure of language. Psychology discovers in the element a bundle of associations; physiology, a succession of movements and positions of the speech-organs; physics, a complex of sound waves. Morphology, the study of linguistic structure, regards the element as the molecule of language, and does not attempt to analyze it.

It is convenient to apply the term root to the significant, cluster-originating element or elements, and to designate as affixes other elements of a cluster the function of which is modificatory or associative.

In the Tiwa language the morphological element is usually a syllable, that is, a consonant plus a vowel or diphthong. Occasionally two elements combine to make a syllable, or two or more syllables constitute a single element.

The process of combining root elements with other root elements is known as compounding. The process of combining root elements with affixes is known as affixing.

Tiwa compounds are of three types: (1) noun + noun; (2) noun + verb; (3) verb + verb. Letting *n* stand for noun, *v* for verb, all Tiwa compounds are represented by the formula $n \pm n \pm n \pm n \pm v \pm v \pm v \pm v$. Formative affixes never stand between the roots compounded. The compound behaves precisely as if it were a single root. The meaning of the compound often differs from that of either of the component roots, compounding thus becoming a fruitful means of enlarging the vocabulary.

Affixes may be distinguished by their position as prefixes, infixes, and postfixes (suffixes). Tiwa root elements are commonly modified by postfixes and prefixes; infixes do not occur.

Two Parts of Speech

Two kinds of root elements, or in other words two parts of speech, are distinguished. These are with their Taos names: (1) *xá' nā mā'*, the noun root; (2) *tu' u' na*, the verb root. Nouns,

some adjectives, pronouns, adverbs and conjunctions may be roughly assigned to the former class; verbs, some adjectives, and interjections belong to the latter. English adverbs, prepositions, and inflexions are largely expressed by affixes. Some elements may be employed, with different affixes, both as noun and verb roots.

XÁ NÁ' MA*, THE NOUN ROOT*

Gender, Number, and Case

Gender, number, and case may find formal expression in the affixes of the noun, in the pronoun, or in processes of compounding.

Animate and inanimate gender is distinguished by noun terminations, or by pronoun elements prefixed to noun or verb, or may be unexpressed.

Singular and 2+ plural number is indicated by noun terminations; either singular and 2+ plural, or singular, dual, and 3+ plural number may be indicated by pronoun elements prefixed to noun or verb. When a noun is not the last member of a compound, its number cannot be expressed by means of noun terminations.

Subject-case denoting subject, object case denoting object, and referential case denoting less intimate relation between noun and verb are expressed partly by the presence or absence of noun terminations, partly by noun + verb compounding, chiefly by pronoun elements prefixed to the verb.

The Noun

The Taos noun is under certain syntactic conditions accompanied by a postfix which we call a noun termination. The postfix renders the meaning more demonstrative and emphatic, frequently defines gender as animate or inanimate, and indicates number as singular or 2+ plural. The verb construed with a noun often distinguishes singular, dual, or 3+ plural.

A noun must be accompanied by its termination except under the following conditions, when the termination must be omitted.

(1) If the noun is used as a proper noun, animate gender. Thus with terminations sing. *kôā na*, plu. *kôā nā ma**, bear, a bear, the bear; without terminations sing. *kôā*, plu. *kôā*, Old Bear, Bruin. With terminations sing. *p'á já na*, plu. *p'á já nā**, beaver, a beaver,

the beaver; without terminations sing. *P'â jâ*, Beaver, name of a Taos Indian.

(2) If the noun is used as the not last member of a noun + noun compound. Thus uncompounded with terminations sing. *kôâ na*, plu. *kôâ nâ ma**, bear; sing. *t'âi na*, plu. *t'âi nâ ma**, clan. Compounded with termination of last member only, sing. *kôâ t'âi na*, bear clan.

(3) If the noun is used as the not last member of a noun + verb compound; thus uncompounded with terminations, sing. *kôâ na 'â mu* ja*, the bear me saw, plu. *kôâ nâ m 'â mu* ja*. Compounded with verb root as object without terminations, sing. *ti kôâ mu**, him I the bear saw, plu. *pi kôâ mu**, them I the bears saw.

(4) If the noun is so used that it require some postfix other than the terminations; thus with terminations, sing. *kôâ na*, plu. *kôâ nâ ma**, bear; with postfix other than termination, sing. *kôâ hui ju*, plu. *kôâ hui ju*, like a bear; sing. *'a* n kôâ wa 'i*, plu. *'a* n kôâ wa 'i na**, my bear. In brief, terminations must be used except with animate proper nouns, nouns used as not last members of compounds, or nouns requiring some postfix other than the termination.

Although there are but few noun terminations, they present as much irregularity as do the gender-number-case endings of Indo-Germanic. As distinguished by termination nouns fall into seven classes:

1. Sing. *-na*, plu. *-nâ*. Many nouns denoting inanimate objects or substances not made by man, especially such as consist noticeably of particles or parts, are included here. Three types of termination distinguished by the manner of postfixation are illustrated by the following nouns: (a) Sing. *-na*, plu. *-nâ*. Thus sing. *hiu na*, stone, plu. *hiu nâ*, stones. (b) The vowel in which the noun root ends is repeated plus sing. *-na*, plu. *-nâ*. Thus sing. *p'â 'â na*, a particle, body, or stream of water, plu. *p'â 'â nâ*, water. (c) Sing. *-(n)â na*, plu. *-(n)â nâ*. Thus *p'a nâ na*, a particle, flake, or crystal of snow; plu. *p'a nâ nâ*, snow.

2. Sing. *-na*, plu. *-nâ*. Nouns of this class signify inanimate objects or substances made by man or by some personified instrumentality. The terminations are the same as those of nouns of

class 1 and the same three types of postfixation are distinguished; but when a noun of this class is compounded or used without a termination or other postfix the indefinite pronoun element *na** is prefixed. This same *na** is prefixed to verbs; see page 34. Thus sing. *t'ō na*, house, plu. *t'ō nā*, houses; but without a postfix sing. and plu. *na* t'ō*, house, houses, as in *na* t'ō mu** (he) saw houses.

3. Sing. *-na*, plu. *-na**. This class includes many nouns designating animals and peoples. There are three types of postfixation as in classes 1 and 2. As an illustration, type (a) sing. *p'ā jā na*, beaver, plu. *p'ā jā na**, beavers.

4. Sing. *-na*, plu. *-nā ma**. In this class are found many nouns signifying human beings and animals, especially those indicating human social groups and animal genera. Three types are distinguished. (a) Sing. *-na*, plu. *-nā ma**. Thus sing. *kōā na*, bear, plu. *kōā nā ma**, bears. (b) The vowel in which the noun root ends is repeated plus sing. *-na*, plu. *-nā ma**. Thus sing. *pō'ō na*, fish, plu. *pō'ō nā ma**, fish(es). (c) Sing. *-(n)āna*, plu. *-(n)ānāma**. Thus sing. *sōā nā na*, man, plu. *sōā nā nā ma**, men.

5. Sing. *-nā m a**, plu. *-nā*. All that can be said of the nouns which belong here is that they are frequently used in the plural. What appears to be a plural termination is added to the singular; a singular termination is used in the plural. The verb adjusts itself to the termination, a plural verb accompanying the singular; a dual verb, the dual; a singular verb, the plural. Thus sing. *lāā nā ma**, arrow, plu. *lāā na*, arrows.

6. Sing. *-nā ma**, plu. *-nā*. The usage of these nouns is the same as in class 5. Nouns of this class are rare. Thus sing. *xā* nā ma**, name; plu. *xā* nā*, names.

7. Nouns having one termination only are grouped here. They are collective in meaning. Thus *wō nā*, milk.

Some nouns have more than one plural. Thus 1 b, sing. *tō'ō nā* spot, elk, leaf of book, book; 1st plu. *tō'ō nā*, spots, leaves of books, books; 2nd plu. *tō'ō nā ma**, elks. It is explained that both elk and leaf of a book are called thus because spotted.

A noun which is the subject of a verb is never compounded with the verb. Such a noun has its termination except under conditions stated above.

A noun which is either the direct object or the referential object of the verb is regularly compounded with the verb. The noun root is then stripped of its affixes. Pronominal elements are prefixed to the compound to give partial expression of gender, number, and person, and to define the relation in which the noun stands to the verb. Thus: *ti kôa mu**, him I bear saw; *pi kôa mu**, them I bears saw. Both direct and referential objects may be compounded, the referential preceding the direct. Thus: *sôa nâ na 'â* kâu p'â mîa hûa*, the man he-it-him ('â*) the horse (kâu) water (p'â) gives (*wîa hûa*). See prefixed referential object pronouns, p. 34.

The singular direct object *must be compounded*. The plural direct object noun is usually compounded, but *may be given the form which it would have if it were the subject*, the pronoun elements which accompany the verb defining its case function.

Thus one is permitted to say either *pi kôa mu**, them I bears saw; or *kôa nâ mu pi mu**, bears them I saw. The singular direct object permits only one form: *ti kôa mu**, him I bear saw. The singular or plural referential object *may or may not be compounded*. Prefixed pronoun elements appearing early in the verb cluster govern and interpret these compounding processes.

Compounding of nouns with verbs, such as has been described, has often been termed incorporation. W. von Humboldt illustrates "incorporation" by the Nahua sentence: compounded or incorporated *nî nîca qua*, I-meat-eat; uncompounded or non-incorporated *nîc qua in naca tl*, I-it-eat meat. Taos exactly parallels these Nahua constructions: compounded or incorporated, *'â tûa k'a la**, I-meat-ate; uncompounded or non-incorporated, *'â k'a lu tûa nâ*, I-it-ate meat.¹ Incorporation is a very objectionable name for this process since it refers to noun + verb compounding only, and therefore requires us to resort to other terminology in naming other processes of compounding which are grammatically identical. Noun + verb compounding describes what actually occurs.

Simple and composite postfixes of locative, directional, or relational force are frequently appended to noun elements. A few of these may be used with verb elements also. Examples are:

¹ Fortunately for the sake of this comparison the Taos word meaning meat, *tûdnâ*, is commonly plural, the singular, *tûdna*, signifying a morsel of meat. Therefore both compounded and uncompounded object constructions could be employed, as stated above.

- t'a, in, at
- ta, down in, down at
- na, in
- wa", in, at, used with 2 + plu.
- bâ, up in, up at
- ga", down in, down at
- pîa, toward in horizontal direction
- pî ba", up toward
- pî ga", down toward
- pûa t'a, near
- pûa 'a ja", very near
- p'îa l ga", with, denoting accompaniment or association
- tôî bâ, at the side of
- xa" nûa t'a, at the end of
- pûa bâ, at the base of
- na" t'a, under
- na" ma, under
- wa na", on the side of, on the slope of
- k'î ta, on top of, on (contiguous)
- k'ôa t'a, at the surface of
- k'ôa ta, down at the surface of
- k'ôa 'a wa", at the surface of, used with 2 + plu.
- k'ôa 'a ga", down at the surface of
- k'î nâi, above (not contiguous)
- t'ut t'a, outside of
- xô li mî ma", around
- pîa wa", through
- p'a l ta, down inside of
- pîa nâa, between, among
- pîa n na, in between, in among
- pîa n t'a, between, among
- ba, with, denoting instrumentality
- hât ju, like

The etymology of *k'ôa* is of interest. The postfixes containing *k'ôa* listed above mean at the surface of, at the top of. The primary meaning of *k'ôa* is neck. This usage reminds one of the African who says "house-belly" for in the house.

Rendering of English Adjectives

English adjectives are rendered in Taos either by nouns or verbs. Attributive and predicative constructions are not differentiated.

(1) The adjective may be regarded as a *noun* root of generalized meaning. It adds terminations and is compounded like a noun root. Thus 1a sing. *p'a xō na*, shell, plu. *p'a xō nā*, shells; 1a sing. *p'a t'ō na*, whiteness, plu. *p'a t'ō nā*, whitenesses. Compounded 1a sing. *p'a xō p'a t'ō na*, shell whiteness or white shell, plu. *p'a xō p'a t'ō nā*, shell whitenesses or white shells.

One of these adjectival noun roots could well be called the Taos "diminutive." This is with termination 4b sing. *'u'u na*, smallness, prettiness, dearness, oldness, small object, small one, etc., child, plu. *'u'u nā mā**. Compounded with the word for bear this gives with terminations 4b sing. *kōā'u'u na*, bear smallness, small bear, plu. *kōā'u'u nā mā**, bear smallnesses, little bears. An example of noun + noun + verb compounding is: *tī kōā'u mu**, I him bear smallness saw, I saw the little bear. This root *'u* is as common and varies as greatly in meaning as German *-chen*, *-lein*.

(2) The English adjective is expressed by various *verb* constructions. Beside regular verbs we find the following constructions performing this function: (a) Use of the postfixes *'i* or *wa'i*, denoting possession, with noun + verb compounds. Thus noun root *tō*, spot; verb root *k'u ju*, be pretty; compound with possession postfix *tō k'u ju'i*, (he) is pretty having spots, prettily spotted, beside the regular *tō k'u ju mā**, (he) is pretty as regards spots. (b) Use of verb roots with prefixed possessive pronouns. Thus verb root *ma sō*, be glad; *'ā u ma sō hāā*, my present gladness or I am glad.

English adjective comparison is sometimes rendered by the free adverbs *lai**, very, more, most, or *ha la*, almost, less, least.

Numeral Expression

The numeral root is used now as a noun, now as a verb. The system is decimal. The numerals 2 and 4, 3 and 5, 8 and 9, appear respectively to be etymologically connected. The numeral 6 is said to mean piece, referring to one hand plus one piece or unit. The verb *mā*li-* means to break or tear to pieces. The

Indians when counting usually begin again with 1 after ten units have been enumerated. There are, however, words for the tens up to and including one hundred. Numeral classifiers do not occur.

There are several series of numerals in constant use: (1) enumerative, used in counting; (2) responsive, used in answering; (3) adjectival, used with nouns, and having endings denoting animate or inanimate gender, and number; (4) substantival, used as nouns with endings denoting animate and inanimate gender and number; (5) ordinal, used to denote relative position or sequence; (6) multiplicative, used to designate the number of times; (7) fractional. Only two fractional numerals are in use; *piā nāi ti*, half, and *ha lapā nāi ti*, any fraction smaller than a half. Some of the enumerative, ordinal, and multiplicative numerals are given below.

Enumerative.

One wā ^a ma ^a	Nine x ^a l ^a ā ^a
Two wi ^a i na ^a	Ten tā ^a ma ^a
Three pa jūā	Eleven tā ^a m wā ^a ma ^a
Four wā ^a na ^a	Twenty wi tā ^a
Five p'a n jūā	Thirty pa jūā tā ^a
Six ma ^a li	One hundred tā ^a tā ^a or tā ^a tā ^a lā ^a
Seven t'u	One thousand tā ^a tā ^a tā ^a or
Eight x ^a i li	tā ^a tā ^a tā ^a lā ^a

Ordinal.

First t'u bā ^a	Fourth wā ^a nā ^a wi ta
Second jiā ba ta	Fifth p'a n jūā wi ta
Third pāu wa ta	

Multiplicative.

Once wi ba	Four times wā ^a nā ^a wi na ^a
Twice wi ju	Five times p'a n jūā wi na ^a
Three times pāu wi na ^a	

The Pronoun

There are numerous sets of pronouns. First, second, and third person is always distinguished; a few forms express near, less remote, and more remote third person. In some pronoun sets different forms occur for animate and inanimate gender. Number is either not recognized at all, or singular and 2+ plural or again singular,

dual, and 3 + plural is expressed. Subject, object, and referential cases and combinations of these cases find more or less complete expression. Inclusive and exclusive forms for the first person plural are not differently expressed.

Pronoun elements are used with nouns or with verbs.

The sets of pronouns fall into two groups, free and prefixed.

Free Pronouns

Free pronouns stand outside the noun or verb cluster, almost anywhere in the sentence. They are usually in apposition with nouns or prefixed pronouns. They may be used subjectively, objectively, and referentially, and may like nouns be provided with postfixes. They often lend a necessary definiteness to the meaning of the sentence.

(1) The free emphatic personal pronouns may always be omitted without changing the sentence meaning materially. They are common in answer to questions. Person only is distinguished. They are *na**, I, me, we, us; *'ā**, thou, thee, ye, you; *'a wa na**, he, him, she, her, it, they, them. When apposite with referential prefixed pronouns the forms *na m ki*, *'ā m ki* and *'a wa na m ki n* are used. Compare *ki*, postfix of purpose infinitives.

(2) The free demonstrative pronouns express three positions and two numbers. Some of them are: sing. *ju na*, plu. *ju nā mā**, this; sing. *jā na*, plu. *jā nā mā**, that (less remote); sing. *wā ti*, plu. *wā nā mā**, that (more remote).

(3) Examples of free indefinite pronouns are *hi*, anything, something; sing. *jā ti hi*, plu. *jā uā m hi*, somebody.

(4) An illustration of a free interrogative not used except in questions is *p'u**, who? All the other free pronouns, especially the indefinite, are also used interrogatively without change in form.

Adverbs and Conjunctions

Closely akin to the free pronouns but in many instances acting rather as pro-verbs and pro-clauses are numerous unattached words which we may call adverbs and conjunctions. These are difficult to analyze, but some are clearly free pronoun roots with affixes.

(1) Adverbs are: *hu*, thus; *hu ta*, in this manner (*ta* = in); *ju*, thus; *ja*, hither; *ju ju**, here; *jā ju**, there (less remote); *wā ju**, there (more remote); *hi'a na**, by doing something, how; *hi*, per-

haps (identical with the free indefinite pronoun *hi*). Adverbs like the free pronouns may be interrogative.

(2) Conjunctions are either free or must stand at the beginning or end of clauses.

Standing almost anywhere : *ha da*^a, soon, enough, already, and now, and then, and ; *ha ba*, but, also, and ; *xa*^a, then, when, whenever, since, because, therefore, you know.

Standing at the beginning of clauses and sentences : *'ai tā na*^a, in that case ; *'ai xā na*^a, in case, if ; *hu xa*^a, so then, accordingly.

Standing at the end of clauses and sentences : *jāū hāt wā na*^a, whenever, as often as ; *ki n na*, as soon as ; *k'at*, after ; *xu hu (xa^a + hu)* then so, because ; *nāi ti*, since (temporal) ; *mā xa*^a, while ; *mā na*^a, after.

Prefixed Pronouns

Pronouns of these series are placed before the root in noun and verb clusters, and in transposed rootless constructions directly before postfixes. They are indispensable to the cluster and with it form a sentence. The elements are slight and two or more are frequently so coalesced as to form a single syllable. Verb prefixed pronouns of definite meaning do not occur in the third person singular subject and object case. Thus *mā*^a, he, she, or it went ; *mu*^a, he, she, or it saw him, her, or them. Elsewhere the pronoun must be formally expressed.

(1) Prefixed possessive pronouns are subjoined to noun and verb elements. Person and number are expressed. The noun termination may be replaced by postfixes denoting possession. Thus *ka na*, mother ; *'ā n ka na*, my mother ; *'ā n ka wa 'i*, my (own) mother. If the possessive pronoun refers to the subject of the sentence we have the choice of two constructions : uncompounded or untransposed, *'ā n pā wa 'i ti mu*^a, my deer own him-I saw ; compounded or transposed, *ti pā mu 'ā n wa 'i*, him-I deer saw my own. These pronouns plus nouns may also translate English predicate construction. Thus *'ā n ka na* or *'ā n ka wa 'i* may have the sense, she is my mother or who is my mother. Only a few verb roots prefix these pronouns. The ordinary verb postfixes are appended. Thus *ma sō* to be glad ; *'ā n ma sō hūā*, my present gladness or I am glad.

(2) Prefixed subject pronouns accompany conspicuously verbs denoting motion or position and the passive form of verbs. Thus 'ā mā, I went; 'ā 'ā, I sat. The pronouns are only eight in number, person and number being expressed: 'ā, I; 'a" na", we 2; 'i, we 3; 'a", you 1; mā" na", you 2; mā", you 3; —, he, she, or it; 'a" na", they 2; 'i, they 3. The first and third persons dual and 3 + plural are the same.

(3) The prefixed third person subject pronoun indefinite is na". To illustrate: na" tīa ja, it is said, or they (indefinite) say; na" p'a-tī" a" pūa, it or they fire flash happened, i. e. it lightened. The noun prefix na" of class 2 is evidently identical.

(4) In the prefixed subject + object pronouns combinations of animate and inanimate gender; singular, dual, and plural number; subject and object case; and first, second, and third persons find somewhat incomplete and irregular expression. The subject and object do not refer to the same person or thing. Third person singular subject + third person singular object is not pronominally expressed; thus mu", he, she, or it, saw him, her, or it. The pronoun elements are closely knit together, forming one or two syllables, subject element preceding object element. The number of combinations is perhaps more than fifty. Examples: tī mu", him, her, or it I saw; pī mu", them 2 + I saw.

(5) Prefixed reflexive-reciprocal subject + object pronouns are exemplified by: ta" mu", I looked at myself; 'i mā mu", each of them 3 + looked at himself, or they 3 + looked at one another. In order to separate reflexive from reciprocal meanings a form of the free emphatic personal pronoun must be added. Thus 'a" wa" n ta 'i mā mu", each of them 3 + looked at himself; 'a" wa" n nā 'i mā mu", they 3 + looked at one another.

(6) Prefixed referential object pronouns denote a relation between the subject, the verb, and some person or thing not the direct object. The direct object may or may not be expressed. The person or thing referred to may be expressed by an appositive noun or free pronoun outside the cluster. The reference is vague and English translations for each form are therefore numerous. Gender, number, and person are partially distinguished as in (4) and (5). The number of combinations is great. Thus mā" m pā" mu", you 1

him with reference to me deer saw, you 1 saw my deer, you 1 saw the deer by me, you 1 saw the deer of which I spoke, you 1 saw the deer which I shot, you 1 saw a deer for me, you 1 saw a deer with me, you 1 saw a deer before I did, you 1 saw a deer instead of my seeing a deer, etc. Third person singular subject, and third person singular subject + third person singular object, are suppressed as in prefixed pronoun sets (2) and (4). Thus *sā nā na 'ā kaa p'ā wā hāa*, the man (he it) with reference to him horse water gives; *sā nā na 'ā kaa p'ā hā hāa*, the man (he it) with reference to him horse water takes away.

TU*U* NA, THE VERB ROOT

The Verb

The morphology of the verb resembles that of the noun. Polysyllabic roots can perhaps be analyzed into simpler elements. Gender, number, case, person, tense, aspect, mood, voice, position, direction, limit, cause, result, etc., may be formally expressed in the verb cluster. The various sets of pronouns prefixed to verb roots have been mentioned above.

Tense, mood, and the like, are either not formally expressed, or are brought out by affixes, by the employment of two verb clusters, or by verb + verb compounding.

Tense is indicated largely by prefixes. Negative forms differ from the corresponding positive forms by having different tense postfixes and also by prefixing a negative element—a double negative construction such as is used in many languages. Some roots require one suffix to express a certain tense, other roots a different suffix. Tenses commonly heard are illustrated by the following forms of the verb *mu**, see.

Tense	Positive	Negative
Aorist	<i>mu*</i> , saw	<i>wa mu* mī</i> , did not see
Progressive present or imperfect	<i>mu* hūā</i> , is or was seeing	<i>wa mu* mā</i> , is not or was not seeing
Immediate future	<i>mu* hā</i> , is about to see	
Indefinite future	<i>mu* ja</i> , will see	<i>wa mu* pu*</i> , will not see
Definite future	<i>su mu* ja</i> , will see	<i>su wa mu* pu*</i> , will not see
Unreal	<i>mu* ja 'ā na*</i> , might have seen	
Ideal	<i>mu* mī na*</i> , may see	

The forms given above are in the third person singular. Prefixed pronouns, if required, are placed before these forms. In the negative the *wa* may even be omitted; compare French negation with *pas*. Other tense postfixes are progressive positive *ma*, *hā*, negative *ma*. *Ma* denotes permanent state or continuous activity and is employed as tense-postfix with verbs of static meaning. *Ma* is also one of the formatives of derivative verbs; see below.

f In some of these postfixes an original positional or directional force is probably still felt. The progressive tense of *mā*, go, is *mā hāa*, is going (in a direction away from the speaker). The progressive tense of *ā*, come, is *ā hā*, is coming (in a direction towards the speaker). The forms *mā hā* and *ā hāa* do not exist. To most verb roots, however, both *hāa* and *hā* may be appended, *hāa* suggesting going, progression, duration of activity, while *hā* denotes coming, immediate futurity. The future and passive *-ja* calls to mind the adverb *ja*, hither; compare *hā*. The negative progressive *-mā* seems to be the same as the verb *mā*, go; compare *hāa*.

Customary and frequentative aspect is expressed by prefixing *wi*, which precedes all other elements in the verb cluster except the prefixed pronoun: thus *wi mu hāa*, used to see, saw again and again.

The majority of sentences are indicative statements and have no formal expression of mood.

When a statement is made according to tradition, report, or other authority outside the speaker the narrativ *wi* is prefixed, occupying the same position as *wi*, which it precedes if both are used. Thus *wi mu*, saw, it is related.

Quotation, either direct or with shifting of person (indirect) is expressed by the free quotative *mu*, which appears after, rarely in, the quotation. Thus *mu mu*, (he) saw (him), (he) said.

There is no imperative. Commands are indicated by tone of voice. The tense is usually future; *wa* of the negative is regularly omitted; *xa*, then, often follows the verb. Thus, *a mu ja xa*, you see then!

Ta is a hortatory element which precedes first person verbs in exhortations. The future and the negative without *wa* occur as in commands. Thus *ta i mu ja*, let us see.

The question requires formal indication unless it contains some interrogative pronoun or adverb. Both positive and negative direct questions are introduced by *xa*ⁿ or *pa*, *xa*ⁿ being the more common. If quoted the quotative follows. Thus *xu su wa muⁿ piⁿ muⁿ*, will (he) not see, (he) asked. The indirect question requires two verb clusters; see below.

The following clusters may be used only in conjunction with complementary clusters. They may be called infinitive forms.

(1) Real infinitives end in *ja*ⁿ*i*. Negation must be expressed by the complementary verb. Thus *'a mā hā ti muⁿ ja*ⁿ*i*, I want to see him.

(2) Indirect question infinitives positive end in *ja*ⁿ*i*; negative end in *mi*ⁿ*i*. They must be preceded by *ʔa*. Thus *mā ʔa tā'a ʔa muⁿ ja*ⁿ*i*, you 1 me asked whether (he) saw (him).

(3) Unreal infinitives end in *ja pāa*ⁿ*i*. Negation must be expressed by the complementary verb. Thus *na ʔa 'a'a n'i muⁿ ja pāa*ⁿ*i*, it is a possibility that you 2 could have seen them 3+.

(4) Purpose infinitives end in *ja ki*. Negation must be expressed by the complementary verb.

Compare *ki*, postfix of free emphatic personal pronouns. Thus *'a mā hā pi muⁿ ja ki*, I am going in order to see them 2+.

Verb + verb compounding also assists in the expression of tense and mood; see below.

What we term the Tiwa passive is a device for emphasizing the subject. The subject, definite or indefinite, must be in the third person, and finds no prefixed pronominal expression. The noun subject may or may not be expressed and if expressed may or may not be compounded. The object, alias subject, must be expressed by a prefixed subject pronoun. The noun object if present may not be compounded, but stands outside the verb cluster and has its proper termination like a true subject. The object may stand in the first, second, or third person. The various verbs form the passive by postfixing between root and tense postfix if present the various elements *ja*, *ka*, *ta*, *la*, *ma*, each verb employing only one of these elements. Examples of the passive construction are: With definite or indefinite subject unexpressed and object expressed by second person singular prefixed subject pronoun, *'a muⁿ ja*, you 1

were seen by him, her, it, them, somebody, or something. With definite subject expressed by compounded noun and object expressed by second person singular prefixed subject pronoun, 'a^a kōā mū^a ja, you I were seen by a bear. With definite subject expressed by uncompounded noun and object expressed by second person singular prefixed subject pronoun, 'a^a mū^a ja kōā na, you I were seen by a bear. With definite subject expressed by compounded noun and object expressed by second person singular prefixed subject pronoun and by uncompounded noun, sōā nā na 'a^a kōā mū^a ja, you I, a man, were seen by a bear. With definite subject expressed by uncompounded noun and object expressed by second person singular prefixed subject pronoun and by uncompounded noun, sōā nā na 'a^a mū^a ja kōā na, you I, a man, were seen by a bear.

Verb + verb compounds in which the second element is the root *pāā*, happen, become, also correspond to English passives; see below.

Simple and composite postfixes describe position, direction, limit, cause, result and other adverbial notions with an exactness totally foreign to English expression. These postfixes are comparable to and in some instances identical with postfixes accompanying noun roots. Examples are: *pī ga^a*, towards in a downward direction away from the speaker; *-nā^a na*, down there within a hollow object; *-xā^a na^a*, in an upward direction away from the speaker as far as.

Tiwa expresses a large percentage of verbal conceptions by verb + verb compounds. The meaning of the compound is usually distinct and the compound is felt as a simple verb as a result of long usage. Two, three, or even four verb roots may be compounded. The last member frequently denotes the chief or causal activity, yet in some compounds it assumes an almost affixal function. To this last member the first or earlier members may stand in most diverse relation. Not infrequently they express attendant, purpose, or result activity. Frequent as last members are the motion verbs *mā^a*, go, 'ā^a, come; the position verbs *k'a*, lie; 'ā^a, sit, *k'i* stand, *jīa*, move about in or at a place; and the verb *pāā*, happen, become. Examples are: *tōā*, he separated, pulled off, picked up + *mā^a*, he went = *tōā mā^a*, he fetched; *tōā la^a*, he shook his arms or flapped his

wings + *mā**, he went = *tōā l mā**, he flew; '*u**, he said + *mā*, he went = '*u* mā**, "he up and said; '*xu mā**, he was taken care of + *pūā*, he became = *x u m pūā*, he became taken care of; *x* lā tī*, hook with horns + '*ā wi ta*, I was tossed = '*ā x* lā tī wi ta*, I was hooked and tossed.

What may be termed derivative verbs are formed by adding to verb roots certain elements which fundamentally modify the root meaning, the combination behaving as a verb + verb compound. The relation of the derivative verb to the verb + verb compound, is perhaps analogous to that which the noun + noun compound, the last member of which is of adjectival force, bears to the noun compound. Thus *mu**, see, may not only be connected with exceedingly numerous pronoun elements, tense, mood, and voice elements, positional, directional, limital, causal, and resultal elements and combinations of such elements, but may originate a number of verbs of derivative meaning each one of which permits as many forms as does the simple root *mu**. Thus *mu* mā**, seem; *mu* wā** show. The derivative verb may act as a member of verb + verb compounds. Thus *xu*, care for; derivative verb *xu mā**, be taken care of; *pūā*, become; *xu m pūā*, (he) became taken care of. *Ma** of derivative verbs is probably the same as the tense postfix *ma**, denoting permanent state or continuous activity. Unanalyzed verb roots of two or more syllables may prove to be derivative or compounded verbs.

The Interjection

Taos speech is rich in a class of verb roots which express assent, negation, various states of emotion, volition, and the like. These differ from other verb roots in that they take no affixes, but in their affixless form have the same syntactic usage as verb clusters. Thus *ha* mu* xa**, yes quotative then, means she said that she was willing to do so. Examples are:

*ha**, yes, all right, also said by a listener during a narration to show interest.

na' a, no

'*a*, expression of surprise

'*a**, expression of pain

'*a* n la*, expression of admiration

'u xa^a, expression of scorn or ridicule,

t'a'a expression of gratitude

wā da^a, be gone far from here!

sān, or si'i, expression of desire for attention.

Greeting, Swearing, Men's and Women's Language

The common greeting is jāū, said on all occasions. Jāū may be translated by hello, how do you do, good bye. The following forms are also much used: sing. 'a^a k'u wa ma^a, dual ma^a n k'u wa ma^a, 3+ plu. ma^a k'u wa ma^a, you live well, progressive tense of k'u, thrive, + wa, be alive, live. The reply is the same, always using of course the proper number. Good bye may be rendered by k'u ka-ma^a, which seems also to contain the element k'u. Pāt 'u, "friend," is a much employed salutation.

The nearest approach to our swearing is such an expression as na^a wā xa n nā nā, disgust, or ta'a lu li, thou male ancestor.

A difference between men's and women's language is noted in the expression: What do you want? Men say hat? Women say hi'i?

TEXT

An incompletely analyzed portion of an animal story with interlinear translation and vocabulary follows. The alphabetic order of the vocabulary is: ', 'a, 'a^a, 'ā, 'ā^a, 'ā, 'ā^a, b, d, g, h, 'i, 'i^a, j, k, k', k^a, l, l, m, n, 'ō, p, p', p^a, s, t, t', t^a, t', t^a, u, 'u^a, w, x, x^a.

Kal hū 'u ha t Pā^a hū 'u
Old She-Wolf and Old She-Deer

'A^a n na^a t^a iā ja wa 'i
with Reference to Them 2 It Is Told

Xa ^a	mā ^a n	kal hū 'u	wi t'ō m	'a ^a m 'u p'ia l ga ^a	
Then	in earlier time	Old She-Wolf	she narrativel lived	her 2+ little ones with	
ha ba	pā ^a hū 'u	wi t'ō m	'a ^a m 'u p'ia l ga ^a	Hu	xu
and	Old She-Deer	she narrativel lived	her 2+ little ones with	So	then
	mā ^a	kal hū 'u	wi wa n hūā	pā ^a hū 'u na	
	after a while	Old She-Wolf	she narrativel approached	the old she-deer	
t'ō n t'a.	Hu	xu :	hi	'a ^a t'a hūā	mu ^a xa ^a
she lived where.	So	then :	"What	you I are doing?"	quotative then
	wi 'u ^a ma.				
she (the wolf) narrativel said to her (the deer).					

Hi 'á wa t'a mā°. Ja du 'á t'ō m 'á na° m 'u p'ā l ga°.
 "Anything I am not doing. Here I live 'my 2+ little ones with."

Ta° t'āā ha mu° 'i t'ō ja mu° xa° ka l lū 'u
 Hortatory together quotative they 3+ live shall quotative then Old She-Wolf

wi tu° hūā. Ha° mu° xa°. Hu xu t'ō ji
 she narrativel said. Yes quotative then. So then day every

'a° n nī la t'ōā mā° hūā. Hu xu
 they 2 quotative wood pull off or pick up went. So then

'a° n la t'ōā mā° na° 'u ha la
 they 2 wood pull off or pick up went when, almost

wi xūā ka hūā.
 she (the wolf) narrativel was biting her (the deer).¹

Hu xu pā° lū 'u na hu 'i wi 'u 'u mā° hūā :
 So then the old she-deer thus them 2+ she narrativel little ones tell went :

Ju hi ka l lū 'u ha t 'ā wi hu ta hā°.
 "Perhaps (by) Old-She-Wolf very soon I narrativel killed be shall soon.

Hu xu 'ā l xā° n hi ja 'u ma° na° m tūā ka° la°
 So then in case perhaps hither them 2+ inanimate she for you 2+
 pieces of meat brings

n, ma° n xa k'ūl k t'i lī lī m tō ja mā°, 'ā l tā° n
 when, you 2 roast put when it in a state of making a s-s-s sound sizzle goes, in that case

xu ma° n na k'a l pu°. Ha ba 'a° m 'u wa 'i n
 then you 2 not eat shall. And (by) her 2+ little ones

hi 'a n k ma° n tō k'u ju 'i
 by (having done) what then you 2 2+ spots are pretty having

ma° n t'ā 'a° la n, ka° n ka na 'a° n kōā k'i l ta ka xu
 you 2 asked are when, (By) our 2 mother we 2 (in) smoke shut down in were because

hu 'a° n tō k'u ju ma° mu° ma° pā° n 'u mā° ja.
 thus we 2 (as regards) 2+ spots pretty are permanently, quotative you 2 them 2+ say
 go shall.

Hu xu 'a° wa° n hu ta 'i māū xu ma° pā° n k'i l ta ja.
 So then they in the same manner they 3+ wish then you 2 them 3+ shut
 down in will.

Hu 'a n mā° nu ma° n x'ā p mā° ja wā k ta 'a lū lī n°
 So (doing) after you 2 run go shall to that far place down the male ancestors

'i 'ā° na ga°. Hu xu ma° n su xu m pūā ja.
 they 3+ sit or stay in where down where. So then you 2 will cared for become will''

¹ In play.

² It is believed that the ancestors and unborn progeny of deer are kept underground in a lake or kiva situated far northwest of Taos whence they are occasionally driven forth for the benefit of the Indians.

Vocabulary

- 'a, in ta 'a lu li, male ancestor.
- 'a, in hi 'a na, having done something, and hu 'a na, so doing.
- 'āi, in 'āi tā na, in that case, 'āi xā na, in case.
- 'āi tā n, see 'āi tā na.
- 'āi tā na, conjunction, in that case.
- 'āi xā n, see 'āi xā na.
- 'āi xā na conjunction, in case.
- 'a, first and third person dual pronoun element in 'a na, we 2, they 2.
- 'a, second person sing. prefixed subject pronoun, you 1.
- 'a, third person pronoun element in 'a ma, his, her, or its, 2 + animate, and 'a wa na, he, she, it, they.
- 'a, in t' lā 'a, ask.
- 'a m, see 'a ma.
- 'a ma, third person sing. 2 + animate prefixed possessive pronoun, his, her, or its, 2 + animate.
- 'a n, see 'a na.
- 'a na, first and third person dual prefixed subject pronoun, we 2, they 2.
- 'a wa n, see 'a wa na.
- 'a wa na, third person sing., dual, and plu. free emphatic personal pronoun, he, she, it, they.
- 'ā, verb, sit, stay, be.
- 'ā, first person sing. prefixed subject pronoun, I.
- 'ā, first person sing. pronoun element in 'ā na ma, my 2 + animate.
- 'ā na m, see, 'ā na ma.
- 'ā na ma, first person singular 2 + animate prefixed possessive pronoun, my 2 + animate.
- 'i, first and third person 3 + plural prefixed subject pronoun, we 3 +, they 3 +.
- 'i, prefixed subject + object pronoun, he, she, or it, them 2 +.
- 'i, postfix denoting possession or inherent quality, in ma n tō k' u ju 'i, you 2 2 + spots are pretty having; often preceded by wa, as in 'a m 'u wa 'i na, her (own) 2 + little ones.
- 'u, noun, smallness, little one, little thing; compounded it acts as a "diminutive" expressing smallness, prettiness, dearness, oldness. With terminations 4 b, sing. 'u u na, plu. 'u u nā ma.
- 'u, third person 2 + plu. inanimate pronoun element in the referential pronoun 'u ma na ma, them 2 + inanimate he, she, or it, for you 2.

'u, in na' 'u, when.

'u ma' na' m, see 'u ma' na' ma'.

'u ma' na' ma', composite referential pronoun, then 2 + inanimate he, she, or it, for you 2.

'u', verb, say, tell.

ba, in ha ba, but.

ba', in x'ia ba', run.

da', in ha da', enough, and ja da', here.

ga', directional and positional postfix, down (to) where.

ga', apparently without the meaning "down" in p'ia l ga', with.

ha, in ha ba, but, ha da', enough, and ha la, almost.

ha, in t'ua ha, together.

ha ba, conjunction, but, also, and.

hada', adverb and conjunction, enough, already, soon, and now, and then, and also, and.

ha la, adverb, almost, less, least.

ha t, see ha da'.

ha', interjection, yes.

ha', tense postfix denoting immediate futurity.

hi, free indefinite pronoun, anything, something, what, perhaps. It also occurs in hi a na', by having done what, and ju hi, maybe.

hi 'a n, see hi 'a na'.

hi 'a na', free indefinite pronoun, by having done something, by having done what, why, how.

hu, adverb, thus, so, and so.

hu, verb, kill.

hu 'a n, see hu 'a na'.

hu 'a na', adverb, so doing.

hua, tense suffix denoting progressive or continued activity; the corresponding negative postfix is ma'.

hu ta, adverb, in the same manner (hu, thus + ta, down in).

ja, adverb, hither; also in ja da', here.

ja, a future, imperative and, passive verb postfix.

ja, in lo ja, make a sizzling sound.

ja da', adverb, here.

ja du, see ja da'.

ji, distributive postfix meaning every, as in t'o ji, every day.

ju, adverb, thus, in ju hi, perhaps.

ju, in k'u ju, be pretty.

ju hi, adverb, perhaps (ju, thus + hi, something, perhaps).

k, see ga^a and xa^a.

ka, in ka la^a, wolf.

ka, noun, mother; with terminations 4 a, sing. ka na, plu. ka nā ma^a;

ka, a passive verb postfix.

ka, in xūā ka, bite.

ka la^a, noun, wolf; with terminations 4 c, sing. ka lā na, plu. ka lā nā ma^a.

ka lliū 'u, noun compound, little, pretty, nice or old wolf female; used as a proper name, hence without termination.

ka^a, first person dual pronoun element in ka^a na^a, of us 2.

ka^a, in ka^a la^a, bring.

ka^a la^a, verb, bring.

ka^a n, see ka^a na^a.

ka^a na^a, first person dual sing. animate prefixed possessive pronoun, of us 2.

kōā, noun, smoke; with terminations 1 b, sing. kōā 'a na, particle or portion of smoke, plu. kōā 'a nā, smoke.

k'a, in k'a la^a, eat.

k'a la^a, verb, eat.

k'u, in k'u ju, be pretty.

k'ūl, verb, place, put.

k'u ju, verb, be pretty.

k'i, in ki la^a, shut up.

k'i l, see k'i la^a.

k'i la^a, verb, shut up, enclose.

l, see la^a.

la, in ha la, almost.

la, a passive verb postfix.

la^a, in ka la^a, wolf.

la^a, in p'ā l ga^a, with.

la^a, the second syllable of several verb roots.

la, noun, wood; with terminations 1 a, sing. la na, a piece of wood, plu. la nā, wood.

li, in ta 'a lu li, male ancestor.

li, in t'i li li, make a s-s-s sound.

liū, noun, female, woman, wife; with terminations 3 b, sing. liū 'u na, plu. liū 'u na^a.

lō, in lō ja.

lō ja, verb, make a sizzling sound, sizzle, boil.

lu, in ta 'a lu li, male ancestor.

n, see maⁿ.

ma, an aorist tense postfix.

māû, verb, wish, want, love.

maⁿ, second person dual pronoun element in maⁿnaⁿ, you 2, maⁿpāⁿnaⁿ, you 2 them 3+, 'u maⁿnaⁿmaⁿ, them 2+ inanimate he, she, or it, for you 2.

maⁿ, perhaps of plural force in 'ānⁿma, my 2 + animate, 'aⁿmaⁿ, her 2 + animate, 'u maⁿnaⁿmaⁿ, them 2+ inanimate he, she, or it, for you 2.

maⁿ, a verb postfix denoting permanence of state or continuity of activity; it also forms derivative verbs, as muⁿ, see, muⁿmaⁿ, be seen, appear, seem; xu, care for, xumaⁿ, be taken care of.

maⁿn, see maⁿnaⁿ.

maⁿnaⁿ, second person dual prefixed subject pronoun, you 2.

maⁿpāⁿn, see maⁿpāⁿnaⁿ.

maⁿpāⁿnaⁿ, prefixed subject + object pronoun, you 2 them 2.

māⁿ, verb, go; often used with almost formative force.

māⁿ, tense postfix denoting progressive or continued activity used with the negative; the corresponding positive postfix is huā; perhaps identical in origin with māⁿ, go.

māⁿ, in māⁿnaⁿ, earlier, later.

māⁿn, see māⁿnaⁿ.

māⁿnaⁿ, adverb, denotes difference in time, earlier, later, before, after, ago, from now, a little while ago, after a while.

māⁿnuⁿ, see māⁿnāⁿ.

muⁿ, adverb, quotative element following direct and indirect quotations; it serves the same purpose as English quotation marks or "said he." n, see naⁿ.

n, by progressive assimilation for m in t'ōn t'a; see m.

na, noun termination in 4 a, sing. ka na, mother, and 4 b, sing. pāⁿlīu 'u na, old she-wolf.

na, locative postfix used with sing. nouns and with verbs, in, in there, in where.

na, by retrogressive assimilation for wa in maⁿna ka l puⁿ, you 2 not eat shall.

na gaⁿ, composite locative postfix used with nouns or verbs, in + down, down in there, down in where (na, in + gaⁿ, down).

naⁿ, noun termination in 3 a, plu. ta 'alu lī naⁿ, male ancestors; also used as noun plural sign with possessive pre- and postfixes in 'aⁿm 'u wa 'i naⁿ, her 2 + little ones,

na^a, prefixed third person subject pronoun indefinite, it, they (indefinite), as in na^a t^a iā ja, it is said, or they (indefinite) say.

na^a, in the pronouns 'a^a wa^a na^a, he, she, it, they, ka^a na^a, of us 2 sing., ma^a na^a, you 2, ma^a pā^a na^a, you 2 them 2 animate, 'u ma^a na^a ma^a, them 2 + inanimate he, she, or it, for you 2.

na^a, adverb or conjunction, then, when; also in na^a 'u, when, 'āi tā^a na^a, in that case, 'āi xā^a na^a, in case, hi 'a na^a, by having done something then, hu 'a na^a, so doing then, and mā^a na^a, earlier, later.

na^a, in wa na^a, approach.

na^a 'u, adverb or conjunction, when.

ni, by retrogressive assimilation for wi in 'a^a n ni la t^a ōā mā^a hūā, they 2 quotative wood pull off or pick up went.

nu, see na^a.

p, see ba^a.

pā^a, noun, deer; with terminations 4 a, sing. pā^a na, plu. pā^a nā ma^a.

pā^a, third person 2 + plu. pronoun element in ma^a pā^a na^a, you 2 them 2 animate.

pā^a lū 'u, noun compound, little, pretty, nice, or old wolf female; used as a proper name, hence without termination; with terminations 4 b, sing. pā^a lū 'u 'u na, plu. pā^a lū 'u 'u nā ma^a.

pūā, verb, happen, become.

pu^a, future and imperative verb postfix used with the negative; the corresponding positive postfix is ja.

p^a iā, in p^a iā l ga^a.

p^a iā l ga^a, noun postfix denoting association or accompaniment, with.

su, tense prefix denoting definite future time, placed after the prefixed pronoun and narrational element.

t, see da^a.

ta, in ta 'a lu li, male ancestor.

ta, locative postfix used with sing. nouns and with verbs, down in, down at; it occurs in hu ta, in the same manner, and 'a^a n kōā k^a i l ta ka we 2 (in) smoke shut down in were.

ta, a passive verb postfix.

ta 'a lu li, noun, father's or mother's father or more remote male ancestor; with terminations 3b, sing. ta 'a lu li 'i na, 3a, plu. ta 'a lu li na^a.

ta^a, hortatory modal element preceding the future of verbs.

tā^a, in 'āi tā^a na^a, in that case.

tō, noun, spot; with terminations 1 b, sing. tō 'ō na, plu. tō 'ō nā.

tūā, noun, meat; with terminations 1 a, sing. tūā na, morsel of meat, plu. tūā nā, meat.

tu^a, verb, say.

t'a, verb, do.

t'a, locative postfix used with sing. nouns and with verbs, in, at, there, where.

t'ō, noun, day; with terminations ɿ a, sing. t'ō na, plu. t'ō nã.

t'ō, verb, live in a house, dwell, live; compare na^a t'ō, house.

t'ōã, verb, separate, pull off, pick up.

t'ō ji, noun with distributive postfix, every day.

t'i, in t'i li li, make a s-s-s sound, dissimilated from the two following syllables.

t'i li li, verb, make a s-s-s sound (onomatope).

t'i li li ma^a, derivative verb, be in a state of making a s-s-s sound, sizzle.

t'lã, verb, say, tell.

t'lã, 'a^a, verb, ask.

t'ũã, in t'ũã ha, together.

t'ũã ha, adverb, together.

wa, noun postfix denoting possession.

wa, verb prefix denoting negation placed before the root and after the prefixed pronoun and tense prefix, and requiring peculiar tense postfixes.

wa, in wa na^a, approach.

wa n, see wa na^a.

wa na^a, verb, approach.

wa^a, in a^a wa^a na^a, he, she, it, they.

wã, free demonstrative pronoun element denoting greater remoteness.

wã ga^a, adverb, to that far place down.

wã k, see wã ga^a.

wi, narrativ modal element indicating that the statement does not originate with the speaker, placed before the root and the negative and tense prefix and after the prefixed pronoun.

xa, verb, roast.

xa^a, adverb and conjunction then, when, whenever, since, because, therefore, you know.

xã^a, in 'ãl xã^a na^a, in case.

xu, see xa^a.

xu, verb, care for.

xũã, in xũã ka, bite.

xũã ka, verb, bite.

xu ma^a, derivative verb, be taken care of.

x^{hi}ā, in x^{hi}ā ba^h, run.

x^{hi}ā ba^h, verb, run.

x^{hi}ā p, see x^{hi}ā ba^h.

SUMMARY

Tiwa is a moderately polysynthetic language of the same general type as Ute or Nahua. Salient features are: phonetic system characterized by clear and not violent sounds with absence of not etymologically synthetic consonant groups; preponderance of one syllabled root and affix elements; notable lack of the processes of internal change in elements and unimportance of reduplication; denoting of root modification both by prefixation and postfixation, the latter process perhaps predominating; remarkable development of root compounding, the compound forming with its affixes a single cluster; abundant formal expression of position, direction, and relation, but suppression of shape, quantity, and quality notions; incomplete and imperfect expression of animate and inanimate gender, of singular, dual and plural number, of subjective, objective, and referential case accomplished chiefly by pronouns and never by case-affixes, of first, second, and third person, and of a great variety of tense and mood ideas; persistent emphasis of the object by means of compounding or passive construction; and elaborate development of syntax by means of conjunctive elements. Affinities of Tanoan with Nahuatlán, Kiowan, and Keresan will be discussed in a preliminary way in a separate paper.

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"CALF MOUNTAIN" MOUND IN MANITOBA

By HENRY MONTGOMERY

IN September last (1909) I excavated an ancient artificial mound, which for many years has been known to the residents of Southern Manitoba as "Calf Mountain" (fig. 5). This mound is situated on a natural ridge in Manitou County. It is nearly circular, is about eighty feet in diameter and ten feet in height. Openings



FIG. 5.—Calf Mountain Mound on Mr. E. H. Stevens' Farm, Darlingford, Manitoba.
Excavated by Henry Montgomery in September, 1909.

had been made in it by other persons some years ago; but these had been filled in such a manner that very little damage had been done in respect to the preservation of the remaining contents of the mound. During my investigations thirty days' labor in digging were expended upon this mound. My excavations brought to light nine burial places within a circular area of about thirty-five feet in diameter, and under conditions which point to the mound's having been built in portions at different times. These conditions

are, firstly, the difference in the state of preservation of the remains in the various burial places, and, secondly, the presence of many layers of limy matter at different levels and having different inclinations or curvatures.

It is my purpose here to give a brief description of the interior of the mound, or that portion of it which had not been previously described. In each instance the strata and interred objects are mentioned in order as they were found by digging from the surface vertically downwards.

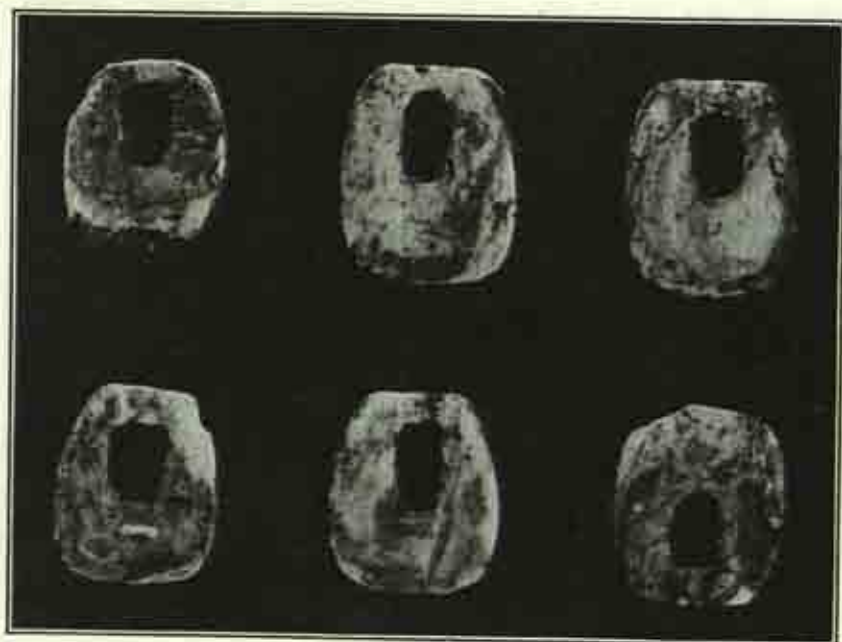


FIG. 6. — Shell ornaments, natural size. Made from marine shells.

Burial No. 1: At the surface a tough sod and black soil were met; about a foot and a half deep was found a calcareous layer from 4 to 6 inches thick; below this was soil; then a calcareous layer; after which came more black soil in which a bone bead occurred; then at a depth of eight feet below the surface there were six buffalo skulls in a heap together; and under these skulls were fourteen large stones. Under these stones were three human skeletons and a roll of birch bark, all being much decomposed.

Burial No. 2: As before, black soil occurred; then a calcareous layer; then black soil; then at a depth of seven feet another calcareous layer of six to eight inches in thickness was found; then more black soil; and at a depth of eight and a half feet below the surface there were six buffalo skulls found together; and beneath these skulls were nine stones, which rested upon one human skeleton, badly decomposed, broken and crushed, along with many flat, oblong shell pendants, all greatly decomposed.

Burial No. 3: Black soil at the top; then a calcareous layer; then black soil; then four buffalo skulls; under which were twelve large stones; and under these were three human skeletons along with twelve flat, elliptical shell beads about an inch in length and having a rectangular opening, all these being greatly decomposed; there were two circular shell beads and three marine shell beads (*Marginella apicina*) not so much decomposed (see figs. 6 and 7). Below the skeletons and beads was black soil in which another calcareous layer occurred for a short distance.

Burial No. 4: Black soil; a calcareous layer from eight to ten inches thick; four buffalo skulls were found about two and a half feet below the surface; then eight stones, and under the stones were the following: five human skeletons; four copper beads (now copper carbonate), the copper sheet having been rolled around a string or cord of tanned deer hide, and the copper salts having stained many of the human bones a deep green in color; one large birch-bark basket with holes or stitches around its margin and where the pieces were joined; one piece of tanned hide, probably deer skin; one bone object an inch and a half long, probably an arrow nock, which is



FIG. 7. — Beads of marine shell, *Marginella apicina*.

shown in figure 8. The latter has a hole in one end for the tang of the arrow, and a cleft or slit in the opposite end for the bow string. Beneath these skeletons and manufactured objects there was more black soil and underneath it a calcareous layer from six



FIG. 8.—Bone Arrow nock,
natural size.

to eight inches thick, and then black soil above the original surface of the ground. There were two distinct, well-defined calcareous layers, one of which was three feet higher in the mound than the other. Burial pits one and two were beneath the lower layer, and pits three and four were between the upper and lower calcareous layers. These layers ranged from six to ten inches in thickness.

Burial No. 5: Black soil; a calcareous layer; then about two feet below the surface occurred eleven pairs of buffalo scapulæ (no stones here); then two human skeletons; three copper beads (now altogether changed into copper carbonate); three shell beads, circular in shape; one bone armlet with holes for fastening it on the arm, and also notches and nine grooves for decoration. The notches are in fives and sevens upon the margin. A little fur of a beaver was present. Several of the bones were deeply stained green by the copper ornaments. One of these copper beads is three and one half inches long and three eighths of an inch wide. These beads are similar to the copper beads found by me in the years 1887 and 1889 in the Dakota mounds.

Burial No. 6: Black soil; a calcareous layer; black soil; then about two and one half feet below the surface three buffalo skulls (no stones here); two human skeletons without heads; one bone armlet in position around the radius and ulna bones of the forearm. This armlet has holes for fastening it in position upon the arm of the wearer, and grooves and notches of decoration.

Burial No. 7: Black soil; a calcareous layer ten inches thick; black soil; then two and one half feet below the surface were found;

two buffalo skulls and one buffalo scapula (no stones) beneath which were two human skulls in fairly good condition, excepting that the zygomatic arch was broken and the lower jaw wanting. One skull has scratches or knife-markings on the frontal bone, and the other has them on the occiput, indications of a secondary burial. About two feet west of these was found a large, perfect, grooved stone maul of gneissoid rock, the groove extending all around the stone.

Burial No. 8: Black soil; a well-defined calcareous layer; black soil; then, at about three feet from the surface, were found one buffalo skull (no stones here), a few small bones of a child, one piece of birch bark, one marine shell bead (*Marginella*) of the same kind as those found in burial pit No. 3 of this mound.

Burial No. 9: Black soil for two and a half feet; then a calcareous layer; then more than two feet of black soil; then about five and a half feet below the surface were found two buffalo skulls (no stones here) resting upon one human skeleton in position with all bones articulated and in a crouching posture, and one marine shell bead about an inch and a half long made from the columella of the marine shell, *Busyon* (or *Fulgur*) *perversum*.

The shell articles in the various pits were doubtless procured by trade from the Gulf of Mexico, and the copper from Michigan, both distant sources of supply.

Not including the crumbling decomposed remains incapable of removal, the "Calf Mountain" mound during the period of my operations upon it yielded: Twenty-eight buffalo skulls; twenty-three buffalo scapulæ; forty-three large stones in four burial pits; twenty human skeletons; fourteen kinds of manufactured objects of shell, copper, bark, hide, bone, and stone; charcoal and charred wood; broken bones of deer and buffalo. Four of the burial pits had both buffalo skulls and large stones covering the remains, and the buffalo skulls were always above the stones. Four of the pits had buffalo skulls alone covering the remains. One pit had buffalo scapulæ alone covering the remains. But in all cases either one or two calcareous layers occurred above the pits and at a distance of from one foot to four feet from the pits. These layers were circular; they varied from about eight to twelve feet in diameter, and exhibited arches or curvatures of different kinds, or arcs of different

circles. These overlapped in several places without touching each other.

More than twenty years ago, so long ago as the year 1889, at the Toronto meeting of the American Association for the Advancement of Science I called attention to the presence of a layer of yellow clay in ten mounds near Devil's Lake, North Dakota, where for several years I had been carrying on investigations. An abstract of my paper was published in the Proceedings of the Association for that year, and from it the following is taken: — "There is, perhaps, a third kind of burial mound in this district. But, as yet, I have been unable to make a separate class for it. Its chief distinguishing characteristic is the possession of a layer of yellow clay two inches thick, which extends through the greater part of the mound and seems to overlie many human skeletons. It may possibly correspond to the covering of the vault or pit described in the first class. In this kind, however, no real excavation occurs, and the layer of yellow clay is found two or three feet above the surface of the ground. For convenience sake it may be temporarily placed between the two preceding classes until other mounds of similar character shall have been carefully studied. I have explored ten mounds of this kind."

A similar description of this structure occurs in my paper "Remains of Prehistoric Man in the Dakotas" read before the Anthropological Society of Washington in March, 1906, and published in the *American Anthropologist* (Vol. 8, No. 4), that same year. In a paper upon "The Archeology of Ontario and Manitoba" read by me last August before the Anthropological Section of the British Association for the Advancement of Science, an outline of which appeared in a recent number of the *American Anthropologist* (Vol. XI., No. 3, page 472), I described the structure of a burial mound in western Manitoba which contained one large, well-defined calcareous layer, and one yellow clay layer about two feet above the former.

But, here in "Calf Mountain" mound there were many burial pits and many such whitish calcareous layers. I found nine burial places. The number found by those who first opened this mound is not known to me; but probably there were two or three found

by them. This would make at least eleven burial places in the one mound.

The exact number of calcareous layers could not be determined because of the previous operations upon the mound, but I have concluded that in all probability there was one for each burial place. There were certainly as many as six. Other broken pieces may or may not have been continuous with any of these six. If they were never connected with them there must have been nine layers over the nine burials. The layers at higher levels formed portions of larger circles than those at greater depths, and in several parts of the mound they inclined at different angles and also to a variable extent overlapped. These conditions seem to indicate a growth of the mound in size and direction by each additional burial spot selected, the calcareous protective covering of the burial pit being made to suit the size and form of the mound at that stage of its growth or period in its history.

The condition of the human bones and the objects of handiwork found with them also give evidence in the same direction. Those found at lower depths, although much better and more securely protected from the atmosphere and moisture, were much more decomposed than those found at higher levels. The difference in the state of preservation was very marked indeed. It was not possible to save much of the remains found at the lowest levels.

If we assume that this mound contained the burials of successive generations of the same family, and that each burial place received the remains of one generation (which there are reasons for believing), and we also assume that the period of the active use or receptivity of a burial pit occupied about forty years, a mound of this size possessing about a dozen burial places would require nearly five centuries for its completion. This time may seem to some to be too great, yet it would scarcely be sufficient to account for the difference in the condition of the mound's contents. This conclusion is reached by a comparison with remains from elsewhere whose date of interment is known.

Again, if we consider the quantity of the water supply at the present time, consisting of one very small pond of brackish water a quarter of a mile distant and another small one nearly two miles

away, and we compare this supply with what must have been in that locality during its occupation by these prehistoric people, it appears reasonable to believe, that at least a thousand years must have elapsed since the first burial took place in this tumulus. It is, of course, not necessary to assume, that, in the construction of this mound or of any burial mound everything was done with the greatest regularity and accuracy as to time or to the remains interred. Postponement of burials sometimes occurred, and this occasionally led to second or secondary burials. Doubtless on some occasions the remains of others not the immediate members of the family were also admitted. But generally the burial mounds in the Dakota states and in Manitoba must have been erected in this manner, each mound growing in size by the burial of each generation.



FIG. 9.—Onyx pipe-bowl with human face-mask. Found in Ontario, Can.

In this tumulus there was discovered another object which ought to be mentioned here (see plate III). It is a carved and sculptured shell, found in the dirt that had been thrown back into the trench by the persons digging here in former years. There can be no doubt that it was originally a part of the contents of a burial pit. The article in question is a piece of a large heavy marine shell, most probably the univalve, *Fulgur perversa*. It measures four and one-eighth by four and five-eighths inches (10.3 by 12 centimeters). Perhaps the chief interest attaching to it is that it belongs to a class of engraved and sculptured shell objects which are characteristic of the southern mounds, and are almost entirely confined to Tennessee and Virginia. While very similar to five or six objects taken from mounds in these two southern states it differs from them to some extent in the details of the carving and also in having carvings upon both its sides. It has a human face mask upon the convex surface, with a groove outlining the face, a sculptured nose, a raised node instead of a mouth, perforated eyes, and peculiar zigzag lines on the cheeks. These are nearly but not quite as they are seen upon two or three specimens from Tennessee. It



Shell object, convex side, having a human face-mask, showing nose and mouth more less perfectly than seen on the original.



Concave side of shell object. About two-thirds natural size. Much worn; but showing remains of carvings of probably a mythical creature, a combination of a man, a turtle, and a beaver.

also greatly resembles the face mask on the bowl of an onyx marble pipe from the province of Ontario, excepting that on the pipe (figure 9) eyebrows are present, the mouth node or eminence is wanting and there is no grinding or sculpturing of the nose, the innermost incised lines having been placed closer and made to indicate the position of the nasal organ. Whether or not this face was intended to represent a mourning mask worn at burial ceremonies, the zigzag lines showing the course of tears running down the cheeks, or that these lines represent the form of the painting or of the tattooing of an individual or of a tribe is not known. Owing apparently to wear, the figures cut upon the concave surface of the shell are very indistinct in some places and in a few spots are altogether obliterated. In other parts, however, they are quite distinct, and, although differing, they exhibit some resemblances to one or two from Tennessee which have been figured and described by Dr W. H. Holmes in his "Art in Shell of the Ancient Americans." This is the second large marine shell bearing an engraved human face mask which has been found in Manitoba, one having been taken out of a mound by me during the summer of 1908. In connection with same other features of Canadian archeology the finding of these *Fulgur* shell carvings indicates that these prehistoric people were probably contemporaneous with those of Tennessee and the vicinity.

UNIVERSITY OF TORONTO,
TORONTO, CANADA.

SOME NEW MISSOURI RIVER VALLEY SITES IN NORTH DAKOTA

By G. F. WILL

THE new sites to be described in this paper are some that are not already located by the North Dakota State Society, which has recently added a number of sites to the list known. Among the sites long recognized historically but not definitely located perhaps the most important were the two Apple Creek Mandan sites, specifically mentioned and marked on their map by Lewis and Clark. They figure prominently in the history of the Mandans as the villages first abandoned during the earliest epidemic of smallpox, after having been raided by the Sioux. Many unsuccessful attempts were made by the writer to get definite data on these sites, and every source of information was sought. A letter, however, from the late Jos. Taylor of Washburn, N. D., gave the first authentic information of their existence in comparatively recent years. He declared that he had visited both sites over thirty years ago and found them plainly marked and plentifully strewn with potsherds.

Several days were spent by the writer and Mr William Sunderand in a careful search along Apple Creek from a point about five miles up it to the mouth. The search finally resulted in the location of one site which not only answers to the location of the lower Apple Creek site, but also seems to agree with Lewis and Clark's description of the first Mandan site seen by them.

This site is situated on what is known as the Holbrook place, now belonging to Mr William Small, in range 137, township 80, sections 17-18, about ten miles south of Bismarck. It lies on the edge of the river bluff, whence the land slopes gently up on the east toward some high hills a mile or a mile and a half away.

The ground has been plowed and seeded many years, and at the present writing traces of mounds, ditch and rings are almost completely destroyed. At the time of the location, however, the ditch and a number of the mounds were still distinguishable. The site

extends along the bluff about twelve hundred feet, the depth back up the gentle slope being about six hundred feet. A ditch ran from the north end of the village on the edge of the bluff in a flattened semi-circle to the south end where it terminated at the edge of the bluff which is quite steep all along here. The ditch was traceable for the whole distance, and the large mounds seemed to skirt the inner side of the ditch, with lower mounds and barely distinguishable depressions in the enclosed area.

The typical potsherds and bone chips were present, bone chips in considerable quantities but pottery rather scarce and in very small fragments, due probably to the frequent stirring of the soil. Mr Small presented the writer with two fine polished stone celts which he had plowed up on the site. These are now in the Peabody Museum, Cambridge, Mass. The pottery in its general character and rim decoration corresponds to that from the other Mandan sites.

As has been said, this site is located about one mile south of the present mouth of Apple Creek. It seems probable, however, that the creek at one time emptied into the Missouri considerably further south than at present. This site is also opposite the uppermost of several round buttes across the river, and would thus satisfy quite well Lewis and Clark's description of the first old Mandan village seen, as being opposite the uppermost of several round buttes and located on the point of a hill ninety feet above the plain or bottom. Furthermore, it seems to agree in point of distance with the other sites identified as seen by Lewis and Clark. The site seems to be that of a very considerable village, and apparently satisfies pretty thoroughly both the requirements for the lower of the two Apple Creek sites, and for the first site seen by Lewis and Clark.

As to the other site on this creek a considerable amount of search has so far revealed no traces. At a point some four miles up the creek, on the north side, and partially upon the Norman Falconer farm, there are several curious mounds. A cache or pocket of chipped flint was recently found in the neighborhood also, and arrowheads have been picked up in the field. There are no traces of fortifications, however, nor of depressions and rings, and the four mounds are several hundred feet apart, regular in shape, one being of the well-known dumb-bell form, and resembling more

those described as found on Mouse River than the ones usually seen about the Mandan sites. Further, no trace of pottery has ever been found here. Further investigation will probably throw more light on the origin of these mounds.

It has been said that the ground on which the above described Holbrook site is located slopes up to some high hills. On the top of one of these hills, at a distance of about one mile from the site and directly overlooking it, are some thirty or forty depressions, six to ten feet across, and with an average depth of about one foot. Excavation here revealed only a very few bone chips and a few signs of burned earth at a depth of six to twelve inches. A little way down the hill, however, a fine arrow point was picked up.

Another site, though not yet definitely located, will be spoken of, as it may prove to be of considerable importance. Although it has not yet been definitely placed, considerable information concerning it is given by Mr Dan Williams, of Painted Woods, N. D. He visited it about forty years ago in company with the late Joseph Taylor, and gives the appended account of it.

"We were passing from the northeast and crossed the line of the Northern Pacific Railroad at or near where Menoken now is. It might have been a mile to the east or west of that. In passing along we came to a place where it looked as if water was close to the surface, owing to the presence of scattering clumps of willows and bullberries, we also noted that we were among a lot of mounds or hillocks similar though not as high as those at the head of Burnt Creek bottom (the Burgois site). We then dismounted and upon examination concluded that it was the site of an old Indian village. It was surrounded by a trench or ditch like those opposite this place. We also found great quantities of pottery, mostly small pieces. We camped that night between the bluffs at Tom Sander's place."

This latter place is about two miles east of Glencoe, N. D. Mr Williams also stated that the village was seen shortly after mid-day. This would probably place the site within two or three miles to the east of Stewartsdale, N. D. It seems likely that this site could be identified with the village at which La Verendrye stopped while his son went to the village on the river.

BISMARCK, NORTH DAKOTA.

ANTHROPOLOGY AT THE BOSTON MEETING WITH PROCEEDINGS OF THE AMERICAN ANTHRO- POLOGICAL ASSOCIATION FOR 1909

By GEORGE GRANT MACCURDY

AS was the case a year ago the American Anthropological Association and the American Folk-Lore Society met in affiliation with Section H of the American Association for the Advancement of Science. The sessions which began on December 27 and lasted till noon on December 30 were held in the Engineering Building of the Massachusetts Institute of Technology. The attendance was better than a year ago and a number of important papers were presented. Professor William H. Holmes was present as Vice-President of Section H and President of the American Anthropological Association, while Dr John R. Swanton presided over the single session in charge of the American Folk-Lore Society.

SECTION H

Officers for the Boston meeting were nominated as follows: Member of the Council, Professor Franz Boas; Member of the General Committee, Dr Charles Peabody. Sectional offices were filled by the nomination of Professor Roland B. Dixon, Cambridge, Mass., as Vice-President for the ensuing year, and Professor Geo. B. Gordon member of the Sectional Committee to serve five years. In accordance with a change in the Constitution enlarging the Sectional Committee, the Section recommended to the Council that the American Anthropological Association, the American Folk-Lore Society and the American Psychological Association be designated societies suitable for affiliation with Section H.

THE AMERICAN ANTHROPOLOGICAL ASSOCIATION

Members of the Council present in addition to President Holmes were Franz Boas, R. B. Dixon, G. B. Gordon, B. T. B. Hyde, G. G. MacCurdy, C. Peabody, G. H. Pepper, and J. R. Swanton.

Report of the Secretary.—The Secretary, Dr George Grant MacCurdy, reported that there had been no special meeting or council meeting since the close of the session in Baltimore, the proceedings of which had been published in the *American Anthropologist* for January–March, 1909.

There has been only one death reported for the year, that of Dr William Jones who was assassinated last March by hostile natives of the Philippine Islands while conducting ethnological researches in Luzon. An account by Professor Boas of Dr Jones' active and promising career appeared in the *Anthropologist* for January–March, 1909.

The annual growth in membership continues to be satisfactory, 50 new names being herewith submitted for election, as follows:¹

I. O. Acton, Otto Aichel, M.D., Buckner Beasley, Miss Martha Warren Beckwith, Thomas Beckwith, Eric Boman, Samuel W. Brewster, R. J. Briggs, D.D., Brooklyn Institute Museum Library, Dr MacMillan Brown, F. F. Carey, Fay Cooper Cole, George W. Cooke, Miss Anna F. Cummings, G. Cusachs, Prof. H. B. Davis, Dr Joseph Kossuth Dixon, Mrs M. A. Drake, Dr Nathaniel B. Emerson, John W. Ferguson, Mrs Edna H. Ford, Charles W. Gates, Albert N. Gilbertson, Alexander A. Goldenweiser, Percy T. Griffith, Doctor Josef Hammar, Philip Hinkle, Henry R. Howland, Emil Lenders, Library of Brown University, Samuel Allanson Lurvey, John Alden Mason, Thomas Albert McKay, Frederick T. Mayer-Oakes, George H. Mead, Milo G. Miller, M.D., Nels C. Nelson, Frank Proctor, Dr Joseph Reinhart, Mrs Thomas Roberts, Count Erok von Rosen, Prof William Benjamin Smith, Olof Solberg, Otto Stöger, Dr John L. Todd, Hutton Webster, George X. Wendling, Blair S. Williams, Jeremiah Zimmermann, D.D.

Eight of our members attended the Winnipeg meeting of the British Association for the Advancement of Science: Boas, Miss Breton, Gordon, Hartland, Hill-Tout, MacCurdy, Montgomery, and Morice.

Report of the Treasurer.—The Treasurer's report which was received and referred to an auditing committee appointed by President Holmes, consisting of J. R. Swanton and J. D. McGuire is as follows:

¹ Full addresses are given in the list of members printed in this issue.

Receipts

Balance for 1908.....	\$	624.32	
From the Anthropological Society of Washington for <i>American Anthropologist</i> ,			
Vol. X, No. 3.....	\$	64.19	
Vol. X, No. 4.....		83.55	
Vol. XI, No. 1.....		72.04	
Vol. XI, No. 2.....		62.54	
<i>Memoirs</i> and extra copies to members		27.84	310.16
From American Ethnological Society for <i>American</i> <i>Anthropologist</i> ,			
Vol. X, No. 3.....		62.72	
Vol. X, No. 4.....		62.54	
Vol. XI, No. 1.....		58.43	
Vol. XI, No. 2.....		59.39	243.08
Annual Dues.....			1,189.07
Annual Subscriptions to <i>American Anthropologist</i>			520.90
Sale of back numbers and extra copies of <i>American</i> <i>Anthropologist</i>			114.05
Sale of <i>Memoirs</i>			43.83
Publication Fund			109.73
Authors' Reprints (at cost).....			145.26
Advertisements in <i>American Anthropologist</i>			17.62
In bank unaccounted for.....			19.01

\$3,337.03*Expenditures*

For printing, binding, and mailing <i>American</i> <i>Anthropologist</i> ,			
Vol. X, No. 3.....	\$294.43		
Vol. X, No. 4.....	418.03		
Vol. XI, No. 1.....	328.38		
Vol. XI, No. 2.....	322.47	1363.31	
<i>Memoirs</i>		286.45	
Reprints		412.14	
Insurance on back volumes.....		15.00	
Illustrations for <i>American Anthropologist</i>		486.71	
Editorial expenses.....		41.43	
Treasurer's expenses.....		158.21	
Secretary's expenses.....		12.65	
Returned subscriptions to <i>American Anthropologist</i>		20.50	
Buying back volumes.....		38.25	
Refund of dues		3.25	2,837.90
Balance.....			\$ 499.13

It will be noted that only Nos. 1 and 2 of Volume XI are paid for.

Treasurer's Expenses Itemized.

Services of assistant	\$100.00
Printing stationery and stamped envelopes.....	49 54
Installing card index for membership and subscription lists.....	5.87
Bank collections on deposits	2.80
	<u>\$158.21</u>

The committee on amendments appointed at the Baltimore meeting and consisting of F. W. Hodge, G. G. MacCurdy and R. B. Dixon, made a report recommending the following :¹

ARTICLE III

Second line of section 2. Change "three members" to "two members."

ARTICLE V

Section 1. Change "twenty-four Councilors" to "a number of Councilors to be determined from time to time by the Association."

Section 2. Change "six Councilors" to "one-fourth of the total number of Councilors."

Add the following at the close of Section 3 :

The President, the Secretary, the Treasurer, the Editor, and three additional members of the Council to be designated by the Council, shall form an Executive Committee of the Council, which shall meet at the call of the President, act in behalf of the Association, except during the meetings of the Association or of the Council, in all matters requiring attention.

Section 4. Change "and of the Council" to "of the Council and of the Executive Committee."

Section 6. Change "under the direction of the President of the Council" to "under the direction of the President."

ARTICLE VI

Section 3. Change "three" to "at least two."

The Chair appointed Messrs Boas, Dixon, Gordon, Hyde, and MacCurdy as a Committee on Nominations. The report of this committee was accepted, the election resulting as follows :

President : Prof. William H. Holmes, Washington.

Vice-President, 1910 : Dr George A. Dorsey, Chicago.

Vice-President, 1911 : Miss Alice C. Fletcher, Washington.

Vice-President, 1912 : Prof. R. B. Dixon, Cambridge.

¹ These amendments are to be considered at the next annual meeting.

Vice-President, 1913: Prof. George B. Gordon, Philadelphia.

Secretary: Dr George Grant MacCurdy, New Haven.

Treasurer: Mr B. T. B. Hyde, New York.

Editor: Mr F. W. Hodge, Washington.

Council: W J McGee, F. W. Putnam, F. Boas, W. H. Holmes, C. B. Moore, G. A. Dorsey, Alice C. Fletcher, R. B. Dixon, G. B. Gordon, G. G. MacCurdy, B. T. B. Hyde, F. W. Hodge (*ex officio*); C. P. Bowditch, A. F. Chamberlain, S. Culin, R. H. Lowie, J. Walter Fewkes, E. Sapir (1910); E. L. Hewett, S. A. Barrett, W. Hough, A. Hrdlička, A. L. Kroeber, A. M. Tozzer (1911); M. A. Saville, H. I. Smith, G. H. Pepper, W. C. Farabee, J. R. Swanton, G. G. Heye (1912); W. C. Mills, H. Montgomery, C. B. Moore, W. K. Moorehead, C. Peabody, C. C. Willoughby (1913).

To represent the Association in the Council of the American Association for the Advancement of Science: R. B. Dixon and G. B. Gordon.

The sum of \$200 was appropriated for the employment of an Associate Editor and Dr John R. Swanton was appointed to the position.

On motion the time and place of the next annual meeting were referred to the President and Secretary with power to act.¹

The incoming President, Professor Holmes, appointed committees as follows:

Committee on Meetings and Program: G. G. MacCurdy (chairman), Miss Alice Fletcher, R. B. Dixon, F. W. Hodge, J. R. Swanton, A. Hrdlička.

Committee on Finance: B. T. B. Hyde (chairman), G. G. MacCurdy, W. H. Furniss, 3d, George G. Heye, Clarence B. Moore, C. P. Bowditch.

Committee on Publication: The names of the members of this committee appear on the third page of the cover of this number of the *American Anthropologist*.

Committee on Policy: Miss Alice Fletcher (chairman), Franz Boas, F. W. Putnam, A. L. Kroeber, George Bird Grinnell, F. W. Hodge, W J McGee.

Committee on American Archeological Nomenclature: C. Peabody (chairman), W. K. Moorehead, H. I. Smith, Walter Hough, Mitchell Carroll.

Committee on the Concordance of American Mythologies: F. Boas, (chairman), J. R. Swanton, A. L. Kroeber, R. B. Dixon.

¹ The next annual meeting will be held during the Christmas holidays at Providence, R. I., which is also the place of meeting of the Archaeological Institute of America and the American Philological Association.

Committee on Nomenclature of Indian Linguistic Families North of Mexico: F. W. Hodge (chairman), F. Boas, A. L. Kroeber, R. B. Dixon, J. R. Swanton, J. Mooney, A. F. Chamberlain.

Committee on the Preservation of American Antiquities: W. H. Holmes (chairman), E. L. Hewett (secretary), Alice C. Fletcher, G. G. MacCurdy, G. B. Gordon, F. W. Hodge, A. L. Kroeber, M. H. Saville, F. W. Putnam, S. Culin, J. Walter Fewkes, F. W. Hodge.

ADDRESSES AND PAPERS

The address of Professor R. S. Woodworth, retiring Vice-President of Section H, entitled "Racial Differences and Mental Traits," has been published in *Science* (vol. xxxi, no. 788, pp. 171-186). It was followed by an important discussion on related topics such as: brain weight in relation to race, intelligence, and the finer structure of the brain; and the relative influences of heredity and environment, in which Professors H. H. Donaldson, Frederic Adams Wood, E. E. Southard, Franz Boas, and J. McK. Cattell took part. The address of Dr. John R. Swanton, President of the American Folk-Lore Society, on "Some Practical Aspects of the Study of Myths," has been published in the *Journal of American Folk-Lore* (vol. xxiii, no. 1, pp. 1-7).

Most of the papers read at the joint meeting are represented in this report by abstracts. These are:

Some Fundamental Characteristics of the Ute Language: Dr. EDWARD SAPIR.

The Ute language, originally spoken in much of Colorado and Utah, forms the easternmost dialect of the Ute-Chemehuevi subgroup, according to Kroeber's classification, of the plateau branch of the Shoshonean linguistic stock. It is itself spoken in at least two slightly different dialects, which may be termed Uintah and Uncompahgre Ute. The phonetics of Ute are only superficially easy, actually they are characterized by many subtleties. The consonantal system in its original form can, by internal evidence, be reduced to the "intermediate" stops p, t, tc, velar q, and labialized q", the sibilant c (really a sound intermediate between s and c), the nasals m, n, and ñ, and the voiced spirants w and y; in Uncompahgre ñ seems normally replaced by nasalization of preceding vowel. These consonants undergo various mechanical changes. Before vowels which,

for one reason or another, have become voiceless, the stops become aspirated surds (p' , t' , q' , and q'^*), while the nasals w and y lose their voice, the voiceless \tilde{n} often, at least in Uncompahgre, becoming merely nasalized breath with the vocalic timbre of the reduced vowel. Between vowels the stops become voiced continuants (bilabial v , trilled tongue-tip r , velar spirant γ and γ^*). Lastly, if the stops are preceded by a vowel and followed by a voiceless vowel, they become voiceless continuants (voiceless bilabial v , voiceless r , x , and x^*). Thus, an etymologically original intermediate p may appear in four phonetically distinct forms: p , p' , v , v' ; the voiced stops (b , d , g , g^*) may also, though not normally, be heard as modifications of original intermediate stops, particularly after nasal consonants. To be carefully distinguished from the simple consonants are the long consonants (pp , tt , ttc , qq , qq^* , cc , mm , and nn) and consonants with immediately following or simultaneous glottal affection (such as m^t , w^t , tt^t). The vowels are perhaps more difficult to classify satisfactorily. As etymologically distinct vowels are probably to be considered a , u , i , weakly rounded \bar{o} , and perhaps \bar{u} and \bar{i} (Sweet's high-back-unrounded $\bar{?}$). The influence of preceding and following vowels and consonants, however, gives these vowels various shades, so that actually a rather considerable number of distinct vowels are found (thus u may become close or open o , i before v is a very different vowel from i before γ , a is often palatalized to open e , and so on). The various vowels, in turn, exercise an important influence on neighboring consonants (thus i palatalizes preceding q to k' , voiceless r has quite different timbres according to the quality of the reduced vowel following it, and so on). As often in English, it is possible to distinguish between slowly pronounced normal forms and allegro forms. Every syllable, in its original form, ends in a vowel or glottal catch; where it seems to end in a consonant, more careful analysis shows that the aspiration following it has a definite vocalic timbre. Words ending in a voiced vowel are invariably followed by a glottal catch or by a marked aspiration.

Nouns are, morphologically speaking, of two types. The absolute form is either identical with the stem, the final vowel of non-monosyllabic nouns becoming unvoiced (thus $p\bar{a}'$, "water," and $pu\bar{n}q'$, "pet," "horse," from stems $p\bar{a}$ - and $pu\bar{n}q$ -), or certain

suffixes may be added to the stem to make the absolute form. These suffixes are *-ttc'* (from *-ttci*) and *-n-tc'*, which are particularly common with nouns denoting animate beings, though often found also with other nouns, and *-z'*, *-pp'*, and *-m-p'*, which are often employed to give body-part nouns a generalized significance. In first members of compound nouns, which may be freely formed, these suffixes are lost, but with possessive pronouns *-ttci* is kept, while *-vi*, *-ppi*, and *-mpi* are lost. Only animate nouns regularly have plurals. Plurals are chiefly of three types: some nouns, particularly person nouns, have reduplicated plurals; others add *-w* (objective *-wa*) to the stem; still others have a suffix *-m'*. All nouns with possessive suffixes may form a reduplicated distributive meaning "each one's —." The possessive relation, when predicative, is generally expressed by the genitive-objective form of the independent personal pronoun preceding the noun (thus *ni*naí mō'ŕə*, "it is my hand," absolute *mō'ō'ŕ'*), when attributive, by suffixed pronominal elements (thus *mō'ō'-n'*, "my hand"). Eight pronominal suffixes are found: first singular, second singular, third singular animate, third singular or plural inanimate, first dual inclusive, first plural inclusive, first dual or plural exclusive, and third plural animate. The genitive-objective or non-subjective form of the noun is made by suffixing *-a*, less commonly *-ya*, to the stem, the possessive pronoun suffixes always following the objective element; as the objective *-a* often appears as a voiceless vowel, or, owing to sentence phonetics, may be elided altogether, the deceptive appearance is often brought about that the objective differs from the subjective merely in having the unreduced form of the stem (subj. *pũñq'** from *pũñqu*, obj. *pũñq'** or *pũñqú* from *pũñquá*). A well-developed set of simple and compound postpositions or local suffixes define position and direction with considerable nicety.

Verb stems differ for singular and plural subjects, often also for singular and plural objects, the dual always following the singular stem. In some cases the singular and plural stems are unrelated, in others they are related, but differ in some more or less irregular respects, in still others the plural has a reduplicated form of the stem, and in many cases the plural subject is differentiated from the singular by the use of a suffix *-qqa* (or *-kkʷā*). Reduplication is used

to express not only plurality of subject or object, but also repeated activity; some verb stems always appear in reduplicated form. The pronominal elements are the same as in the case of the possessive suffixes, except for the second person subject; they may either be appended to, not thoroughly incorporated with, the verb as suffixes, the objective elements generally standing nearer the stem, or they may be appended as enclitics to a noun, independent pronoun, or adverb preceding the verb. When pronominal subject and object are both expressed as enclitics they may either appear together in either of the ways just described, or the subject may be attached to a word preceding the verb, while the object is suffixed to the verb; it seems that only 3d person pronominal enclitic objects are generally combined with following enclitic subjects. Ute has both prefixes and suffixes in its verbs, the former being less transparently affixed elements. The most interesting of the prefixes are a set of elements defining body-part instrumentality; some of the ideas expressed by the suffixes are present activity, futurity, intention, momentaneous action, completion, and others. An important feature of Ute is the presence of numerous compound verbs, the second stem generally being a verb of going, standing, sitting, or lying. Sometimes these second elements of compounds have quasiformal significance (thus "to be engaged in eating" is expressed by "to eat-sit").

On a Remarkable Birch-bark Fragment Found in Iowa. MR WARREN K. MOOREHEAD.

Some thirteen years ago there were found near Fairfield, Iowa, two pieces of oak wood fitted together and covered with gum or wax. The oak had been cut with stone axes, and apparently the wax was of aboriginal origin. There was a light hollow or cavity in the center of each piece of wood. When the wood was fitted together this cavity would be four inches square and an inch thick. Within this had been folded and placed a strip of birch bark of unknown length. The workmen in digging out this piece of wood struck it with a pick and broke it open. There was a strong wind blowing at the time, and half of the birch bark was blown away and lost. The other fragment was preserved and given to a school teacher. She sent the specimen to Mr R. S. Peabody, Founder of the Museum at

Andover. The author is convinced of the genuineness of this find.

The specimens were submitted for examination and comment, the latter being favorable in respect to their authenticity.

The Condition of the Ojibeway of Northern Minnesota. Mr WARREN K. MOOREHEAD.

This paper, while not strictly ethnological in character, is based upon over four months residence last summer with these Indians at White Earth, Minn., for the Indian Office, Washington. The Indians have abandoned their old time customs, and taken on many of the vices of the whites. The Mid-di-wi-win or grand medicine society is not as of old. Day Dodge, a man of 82, is the sole survivor of the Mid-di-wi-win members of the old school and to his keeping is intrusted the birch bark records. He has agreed to translate these and present them to the museum at Andover. These Indians have been cheated out of fully 90 per cent. of the 11,000 allotments of pine timber and farm lands issued to them by the Government at Washington. They now live in unsanitary cabins, are crowded together, and have lost much of their tribal life.

The Chronic Ill Health of Darwin. Dr ROBERT HESSLER.

A study of the chronic ill health of Darwin after the manner of the paleontologist, the data in the "Life and Letters" and "More Letters" being studied in the light of the ill health of a number of individuals who seem to have similar ill health. It is largely a study of environmental influences and of interpreting symptoms, not of disease but of ill health, and showing on what the ill health depended. The paper was illustrated by charts.

Anthropology in the Peale Museum. Mr GEO. H. PEPPER.

The Peale Museum of Philadelphia was an institution of note in the days when scientific collecting was in its infancy. For many years it has been known that it contained a fair sized collection of anthropological material but none could say how much or what the character of the specimens.

Charles Willson Peale was the founder of this interesting institution which began its active career in 1794. The general history and a monograph on the ornithological specimens have been written, but no record of the anthropological material is known to exist.

In the archives of the Pennsylvania Historical Society an accession book was found. It gives the accessions from 1805 to 1842 and it is from these entries that the major part of the information presented in this paper was obtained. The most interesting of these were selected, and among them were the records of specimens obtained by Merriweather Lewis and William Clark, "In their voyage and journey of discovery up the Missouri to its source and to the Pacific Ocean." The rather long list of specimens noted are from the various tribes visited by these early explorers. Among other entries of note were specimens collected by Colonel Pike and other noted travelers.

A general history of the Museum with its various homes and the final sale of the material brings the paper to the final disposition and fate of many of the specimens. All that are known to be in existence are now in the Peabody Museum of Harvard University at Cambridge, Mass.

Huron Moose Hair Embroidery: Dr F. G. SPECK.

This paper deals objectively with the moose hair appliqué embroidery of the Huron Indians now living at Lorette P. Q., Canada. The present known distribution of this type of decoration was given, followed by remarks on its antiquity and history. Details of the technique, of which there are six varieties, were treated and illustrated from specimens collected by the author and from those preserved in the collections of various museums. A list of nineteen decorative figures shows the prominence of flower designs in this art, since all but two of the figures represent either partial or complete flowers or trees. The author described and interpreted the figures found on various embroidered specimens. The paper concluded with a discussion of both the technique and the symbolism of Huron art, and, so far as was possible, a comparison of the designs with those of adjacent tribes. This paper, the material for which was obtained during several visits to Canada in 1908-1909, is intended to appear, illustrated with figures and plates, in a new volume of the Anthropological Publications of the University of Pennsylvania Museum.

Assiniboine Folk-lore: Dr ROBERT H. LOWIE.

The Assiniboine, as a Dakota tribe living for a long time in close

contact with the Cree, might naturally be expected to exhibit in their mythology traces of both Siouan and Algonquian influence. As a matter of fact, the trickster-hero cycle presents relatively few homologies with Siouan mythology, but bears the impress of Western Algonquian influence. On the other hand, the miscellaneous folklore tales, while to a considerable extent shared by the same tribes, do not show the predominance of their influence, because an approximately equal number has also been recorded among the Omaha. From a psychological point of view, it is interesting to note that I^hkto^m, who appears in the mythology of the Dakota proper as a pure trickster type, assumes among the Assiniboine some characteristics of the culture-hero. The secondary association of elsewhere distinct motives is also abundantly exemplified.

What is Totemism? Mr A. A. GOLDENWEISER.

An analysis of the various definitions of totemism discloses a set of phenomena generally covered by that term. In examining the two typical totemic regions — Australia and northern British Columbia — we find them differing in all essential points. If we then follow up the various social and religious phenomena comprised in totemism, in a number of cultural areas we find that each one of these phenomena may and does occur independently, often stands for different psychological facts, and has an independent origin.

In totemism then we must see an association of these several factors. From this point of view totemism becomes the product of a process of convergent evolution, and we are confronted with a number of historical and psychological problems to be investigated.

The Myth of Seven Heads. Prof. ALEXANDER F. CHAMBERLAIN.

Among the "miscellaneous tales" recorded by Dr Clark Wissler and Mr D. C. Duval, in their recent monograph on the *Mythology of the Blackfoot Indians*¹ is "a myth of a seven-headed person who made a business of devouring young women." He is killed by a man who receives "power" from some animals for whom he settles a quarrel. The conclusion of the tale is as follows: "After this he married a princess. Then the thunder stole her, but he secured her by killing a lion, then an eagle which flew out of the lion, then

¹ Anthropol. Pap. Amer. Mus. Nat. Hist., II, 163, 1908.

a rabbit which came out of the eagle, then a dove which came out the rabbit, etc.

The authors cited comment upon this tale: "This story is believed by the Indians to have been brought in by the French." The conclusion certainly suggests such an origin, with its mention of a "princess," and the succession of animals killed.

But a "tale of Seven-heads" is known from the Kutenai,¹ Arapaho, and Sarcee, — and probably also the Gros Ventre. So far as the present writer is aware, the only native text of the "tale of Seven-heads" hitherto obtained is the unpublished Kutenai version recorded in 1891 by him from the dictation of a Lower Kutenai Indian. In the Kutenai version Wistatlatlam (Seven-heads), is defeated and killed by a youth named Sanuktlaent (Bad Shirt), after he has been given "medicine," to make him strong, by a young woman, his wife. Here the tale is thoroughly Indian in aspect; the "princess" is absent; and the story ends by the hero cutting or pulling out the tongue of his defeated adversary, and carrying it home as evidence of his triumph.

The Kutenai version seems to prove that we have here an original Indian legend, which in the case of the Blackfoot version noted above has been contaminated from European sources, the Kutenai retaining the simpler aboriginal form.

Professor W. H. Holmes, President of the joint meetings of Section H and the American Anthropological Association, read an important paper on "Some Problems of the American Race," which was illustrated by original and instructive diagrams. The paper being still unfinished will not be published at present. Prof. Henry Montgomery's paper, "'Calf Mountain' Mound in Manitoba" appears in the present issue of the *Anthropologist*. Dr S. A. Barrett's two communications on: "The Characteristics and Material Culture of the Cayapa-Indians" and "The Cayapa Spirit World" are extracts from a larger work which will appear shortly as part of a series printed privately and entitled: "Contributions to South American Archeology." The paper by Dr George Grant MacCurdy on the "The Alligator Motive and Figures with Mixed Attributes

¹ Chamberlain, Rep. Brit. Assoc., 1892; Kroeber, Anthropol. Pap. Amer. Mus. Nat. Hist., I, 57, 1907.

in the Ancient Art of Chiriqui" is to appear as a monograph in the Anthropological Publications of the University of Pennsylvania.

Two other papers were read of which the secretary has no abstracts: "Native American Ballads," by Mr Phillips Barry; and "A possible Explanation of Conventionalized Art," by Dr H. J. Spinden.

The following papers were read by title:

Dr Stephen D. Peet: (a) Rock Inscriptions; (b) Stages of Progress in Parallels of Latitude.

Dr Walter Hough: (a) The Incensario; (b) The Distribution of Gray Pottery in the Pueblo Region.

Mrs Sarah S. James: Symbolism in a Japanese Marriage.

Professor A. F. Chamberlain: Distribution of South American Linguistic Stocks (map).

Mr John P. Harrington: An Introductory paper on the Taos Dialect of the Tiwa Language (printed in this journal, pp. 11-48).

Professor Franz Boas: Literary Form in Oral Tradition.

Mr A. T. Sinclair: Folk Songs and Music of Cataluna.

Mr Leo J. Frachtenberg: A Grammatical Sketch of the Coos Language of Northwestern Oregon.

One of the particularly attractive features of the week was "Cambridge Day," all members of the joint meeting being guests of the Division of Anthropology of Harvard University. The morning was spent at the Peabody Museum, after which luncheon was served at the Colonial Club. A special car was provided both to and from Cambridge. Many members also took advantage of the special facilities offered by their respective officers to visit the museums of anthropology at Salem and Andover. The social functions included a number of special luncheons and dinners given by local anthropologists and their friends.

YALE UNIVERSITY MUSEUM,
NEW HAVEN, CONN.

PROCEEDINGS OF THE ANTHROPOLOGICAL SOCIETY OF
WASHINGTON

Meeting of October 12, 1909

The 434th regular meeting was opened by Dr J. Walter Fewkes, the President of the Society.

The paper of the evening was by Dr Aleš Hrdlička, whose subject was "The Anthropology of Egypt in the Light of Recent Observations." This dealt mainly with the results of Dr Hrdlička's expedition to Egypt, carried out during the earlier part of the year under the auspices of the Metropolitan Museum of Art and the National Museum. The expedition brought, besides other results, very important additions to the skeletal collection in the National Museum.

The speaker, after pointing out the importance to anthropology of studies on the Egyptians, and mentioning the important work that has been and is being done in Egyptian research and exploration by American men of science, particularly Breasted, Reisner, Lythgoe, and Davis, proceeded to discuss the results of recent investigations on well identified skeletal remains from that country, ranging from the earliest to the latest periods, and also the results of his examinations of the living remnants of the Egyptians.

The principal facts brought out were the following:

Contrary to the hitherto prevailing opinion, there were in the course of time marked changes in the physique, particularly the form of the skull, of the Egyptians, the ancient crania being, on the average, decidedly longer and narrower than those of the later periods.

The Egyptians originated, in all probability, from more than one stream of anthropologically related people, the principal elements being Libyan and Puntite or Arabian.

Negro admixture was very small up to the time of the empire. A more noticeable addition consisted of a brachycephalic strain coming probably from Asia Minor. This is traceable from the earliest times and became important during the Greek and Roman occupation.

The Egyptians were light to medium brown in color, with generally black, straight to slightly curly hair, moderate stature, and a muscular development. They approached closely in all their important features the north Africans and southwestern Asiatics and with these the European dolichocephalic whites.

At the present time the ancient Egyptians may be considered as practically extinct or rather obliterated. The actual population of the country is an amalgamation of the original inhabitants and of the Arabs, Semites, and Negroes with many elements from the northwest, north, and northeast of the Nile Valley.

In certain localities traces of the Egyptians can still be recognized. This seems to be principally the case in the great oasis. A series of 155 natives of this oasis were closely studied, and photographed. The data are being prepared for publication.

The paper was discussed by Professor Holmes, Dr Casanowicz, Dr Folkmar, Dr Hough, Dr Fewkes, and others.

Meeting of October 26, 1909

At the 435th regular meeting the president, Dr J. Walter Fewkes, spoke on "The Preservation of Cliff-dwellings," illustrating his discourse with lantern slides.

"The preservation of cliff dwellings," said the speaker, "is one aspect of a more comprehensive problem now attracting great attention, the conservation of our resources. The protection of the antiquities of our country is imperative, for if neglected much valuable material pertaining to prehistoric America will be destroyed by the elements or by vandals in a few years." Excavation and repair of cliff-dwellings are necessary, not only to put these interesting relics of the past in such condition that tourists may obtain correct ideas of this type of prehistoric architecture, but also to furnish students with data for comparative studies.

The two cliff dwellings that already have been repaired by the government are Spruce-tree House and Cliff Palace, both of which ruins are situated in the Mesa Verde National Park, Colorado.

The field work of repair of cliff-houses under direction of the Secretary of the Interior was in charge of Dr Fewkes, who was detailed for that work by the Secretary of the Smithsonian Institution. The treatment of these ruins consisted of excavation and repair. The ideal is educational and no restoration was attempted. No changes were made in the sky lines of the walls, the purpose of the work being to preserve as far as possible the picturesque characters of the ruins. The condition of Spruce-tree House and Cliff Palace before and after the operations was illustrated by lantern slides made from photographs taken from approximately the same places. The speaker pointed out the many difficulties encountered in the field work, as isolation of the ruins, scarcity of water, and inaccessibility of the ruins from the top of the mesa. He dwelt

especially on the magnitude of the work at Cliff Palace, the largest cliff-dwelling in the southwest, and on the discovery of buried terraces having retaining walls and ceremonial rooms in the talus in front of the secular rooms.

Both Spruce-tree House and Cliff Palace have been completely excavated and repaired so that a visitor can now walk without difficulty or danger from one end to the other through deserted courts, plazas, and rooms, and readily examine all architectural features. All walls in danger of falling have been repaired and new foundations provided wherever necessary.

Dr Fewkes also threw on the screen views of the large cliff-dwellings lately discovered in the Navaho National Monument in the neighborhood of Marsh Pass, northern Arizona. While the dimensions of some of these cliff-dwellings are not less than those of Cliff Palace, they lack the picturesqueness and the fine masonry of the latter. The Navaho Monument cliff-dwellings are rarely more than two stories high and most of the ceremonial rooms are rectangular. These buildings are, however, among the best preserved in the southwest and their chambers might be called more appropriately abandoned rooms than ruins, the broom being more necessary than the spade to put them in condition for tourists and students. It is fortunate for historical science that these houses are now protected from vandals and it is to be hoped that their walls, some of which are tottering, will be repaired before it is too late.

Meeting of November 9, 1909

At the 436th regular meeting Dr Edgar L. Hewett, director of the American School of the Archaeological Institute of America, gave an account of the work of the school during the past few years. The lecture was illustrated with stereopticon views. Dr Hewett first described and illustrated the work of the Utah Branch, in immediate charge of Professor Byron Cummings, of the State University of Utah. He threw on the screen views of the large natural bridge and of the two great cliff houses lately discovered in the Navaho National Monument, northern Arizona. Archeological work is now being done on the ruins on this reservation. He showed also the method of work and the results obtained in excavations conducted by the American School at Puye and Rito de los Frijoles, in New Mexico. Excavations at the former place included work on the large community house on the mesa, and on the cliff dwelling at the base of the cliff. He explained the relation of the casas and the rooms built on top of the talus in front of them.

"The ancient remains of the Rito consist of four community houses in the valley and one on the mesa rim near the southern limit of the cañon, and a series of cliff houses extending for a distance of a mile and a quarter along the base of the northern wall." The excavation at the Rito revealed a type of ruin called a talus village; thirteen of these ruins were recognized.

The field work of the school includes not only excavations of ruins but also repair of their walls and, in some minor cases, restoration.

Views were shown of the community house on top of the mesa at the Rito, the trail worn to the summit, an excavated kiva, a restored ceremonial opening, a secular room provided with a fireplace, and another with a mill (restored) for grinding corn. It is contemplated to place in the excavated rooms the more common domestic articles found in them so that in a field museum of this kind these may be viewed in their proper setting.

Meeting of December 7, 1909

At the 437th regular meeting, Dr J. B. Clayton gave an illustrated lecture on "Varying Values of the Cross Symbol."

In common with other universal symbols the cross emblem presents four clearly marked stages in its development—a simple idea, elaboration, sanctity, and decadence. The *crux ansata* of Egypt, which was originally a water gauge beginning with a simple stick set upright on the banks of the Nile to indicate the height of the annual overflow, was elaborated, first, by the addition of a short horizontal bar, thus forming a tau-cross, the masculine symbol sacred in Phœnicia to Tammuz, and later by the sun-circle, finally changed to a loop, making the object a handled cross. Thus juxtaposed, the fertility of sun and waters suggest the generative powers of nature. This symbol appears in the catacombs with the sun circle transformed into a laurel wreath, expressive of the triumphant faith and hope of Christians. The first historical appearance of the swastika, fourteenth (?) century B. C., is apparently on a small leaden figure three and a half inches long, found by Dr Schliemann in the second city of the ruins of Troy together with many crosses of gold, silver, etc., the location of the symbol on the figure having generative significance. The swastika indicated the sun—the feet referring to the rays, then fire, and finally life. In India, the swastika (*arani*) formed by the two firesticks—the feet indicating flames—was the emblem of fire, then, by an association of ideas, the flame of being. Thor's hammer, identical in form with the Phœnician masculine cross, was the sacred symbol of fire, the hearth, marriage, and fertility, and in his use of this hammer to restore

the two dead goats, the symbol suggests immortality. The paper traced the gathering of various national crosses by the early converts to the catacombs of Rome, where the *crux ansata*, swastika, tau-cross, and modifications of them all, appear on the walls and tombs. The wave of enthusiasm occasioned by the discovery of America brought many missionaries across the Atlantic—following the reports of those who took possession of the soil under the sign of the cross—and they were amazed to find the cross already so prevalent, attributing its presence to some early Christian missionary, usually St. Thomas. Its use on altars, tablets, and pottery, in weaving, in ceremonies, as well as in representing the orientation of the earth and the heavens, the material and the invisible world, were suggested in support of the thesis that whether as swastika, emblem of fire, wind or water, *crux ansata* emblem of reproduction, the tau-cross suggestive of the masculine function, or the Latin cross with its acquired ethical suggestion, the cross has always been the generic symbol of the impartation and maintenance of life.

Meeting of December 21, 1909

THE 438th regular meeting of the society was devoted to a paper by Dr I. M. Casanowicz on "The Alexander Legends in the Talmud and Midrash, with reference to Parallels in Greek and Assyrian Literature."

The passages in the rabbinical literature bearing on Alexander the Great may be divided into two sections: (1) those which refer to his relation to the Jews; (2) those which contain episodes of his expeditions and adventures.

The first part includes: (1) Alexander's meeting with the Jewish high priest. At the instigation of the Samaritans Alexander ordered the temple of Jerusalem to be destroyed; but being met by a procession of Jerusalem nobles, headed by the high priest, in whom he recognized the apparition which had walked before him in his victorious campaigns, he revoked the order and delivered the Samaritans into the power of the Jews. (2) The suits brought by several nations against the Jews before Alexander. The Canaanites brought action for the possession of the land of Canaan, as it admittedly was originally their fathers'. They were answered that as Canaan was the servant of Shem he and his possessions were the property of his master. The Egyptians claimed back the gold and silver of which the Israelites despoiled them at the exodus. They were met by the counter claim of the wages for the service of the Israelites for four hundred and thirty years.

The second part embraces the following episodes: (1) Alexander's

dialogue with the sages of the south. He addressed to them ten questions on cosmogonic and moral subjects, as: What was created first? Who is to be called wise? Who strong? Who rich? etc. (2) Alexander's invasion of the land of the Amazons. They ward off his attack by suggesting to him that there will be little glory for him if he kills them, being women, but that he will make himself eternally ridiculous should he be killed by them. (3) Alexander's visit to Qačia. There he witnesses a suit before the king in which both litigants disclaim the ownership of a treasure. The king advises them to marry their children and give them the find. Alexander said he would have put the litigants to death and confiscated the treasure. The king of Qačia declares that if rain falls and the sun shines in Alexander's country it must be on account of the animals, for the men did not deserve these boons. (4) Alexander's experience at the gates of Paradise. He was there refused admission but given as a token a ball. He weighed against it all his gold and silver but could not counterbalance it. The rabbis put a little dust upon the ball and the scale in which it was immediately went up. They explained to him that it was the eyeball of a man who is never satisfied. (5) Alexander's ascent into the air. He rose up into the air until the world appeared to him like a bowl and the sea like a chalice. (6) Alexander's descent into the depth of the sea. He caused some of his men to dive into the ocean in glass chests. When returned to the surface they reported to have heard the ocean sing: "The Lord is mighty on high."

Most of these narratives are also found in the Greek compilation of the Alexander legends known by the name of Pseudo-Callisthenes, where they are embellished with many accessory details and otherwise much modified. The episodes of Alexander's adventure at the gates of Paradise, or, as in the Greek account, the fountain of life, and his ascent into the air also suggest parallels in the Assyro-Babylonian literature; the first in the Nimrod Epic, the second in the Etana legends. There is a great resemblance between the rabbinical and Greek accounts, pointing to a relationship between both. But the points of contact between the Assyro-Babylonian account, on the one hand, and the stories in Pseudo-Callisthenes and the Talmud on the other, are too vague and of a too general character to warrant the assumption of a direct relationship between them.

Meeting of January 4, 1910

At the 439th meeting Dr Aleš Hrdlička, of the National Museum, exhibited a cast of the lower jaw of *Homo heidelbergensis*, donated recently to the National Museum by Professor Schoettensack of Heidelberg Uni-

versity. This jaw, which is preserved at the university and has been described in detail by Professor Schoettensack, was found less than two years ago near the village of Mauer 10 kilometers southeast of Heidelberg under nearly 75 feet of loess and ancient river sand. It dates from the Upper Pliocene or the very beginning of the Quaternary period and represents the most ancient being known that can be regarded as man. To illustrate the remarkable characteristics of this jaw Dr Hrdlička showed a number of mandibula of different anthropoid apes along with those of recent man. The paper was discussed by Messrs Theodore Gill, G. M. Kober, D. S. Lamb, Daniel Folkmar, and others.

The remainder of the evening was devoted to an address by Dr W J McGee, on "Conservation in the Human Realm." The speaker said that the human realm may best be defined in terms of relation to the other great realms in nature; and these are most conveniently stated in the order of increasing complexity, which may be considered also the order of sequence in cosmic development.

The initial realm is that pertaining to cosmic bodies and their interrelations; the fundamental principle comprises the actions and reactions of gravity, impact, etc., which together have been denoted molarity; the field is largely covered by astronomy, with a part of physics. The second realm pertains to atomic and certain molecular interrelations; its fundamental principle is affinity; and its field coincides fairly with chemistry. The third realm is that of organic activity; its principle is vitality, which directly and indirectly accelerated and multiplied the chemical differentiation of the earth-crust; its field is covered by a large part of biology, with cognate sciences. The fourth realm (which is closely allied to the preceding) pertains to those organisms so complete in themselves as to be self-active; its principle is motility; and its field is covered by zoology and allied branches of knowledge. The final realm is that in which motile organisms are so completely self-active as to react upon and dominate lower nature; its principle is mentality; and its field is anthropology in all of those aspects resting on a psychic basis. Now the entities proper to the several realms coexist and interact; and in general the entities of each higher realm dominate over all those of the lower realms. This is especially true of mentality, which employs motility and directs vitality to control affinity and molarity, thereby making conquest over lower nature for human welfare. In the power of mentality human strength lies, while danger also lurks; for the power may be, and in the absence of constraint often is, used for the destruction rather than mere subjection of the materials and forces of nature. Viewed broadly, the exercise

of control over the realms of lower nature pertains to the human realm no less than do the more passive attributes of mankind.

When this nation was founded but two resources were recognized — the men, with the land they made their home. Half a century later coal mining and the practical manufacture of iron began, and in another half century the industrial exploitation of the forests. Yet statecraft lagged behind industry so far that these enormous values below and above the surface were alienated nominally as land passed under monopolistic control, and were diverted from the whole people to which they rightfully belonged; while free citizenship largely gave place to industrial dependence. At first water was neglected as a mere appurtenance to land; and now that it is recognized as the primary resource — that on which life depends, so that it gives value to all the rest — it also is passing under a monopolistic control whereby all citizenship will tend to merge into industrial dependence on centralized power. The situation is one of the gravest ever confronted by any people in the world's history, graver than any ever survived by a nation; and it behooves those possessing the advantage of scientific training and knowledge of principles to give it earnest consideration — and to aid in defining the interrelated duties of the individual, the family and the state in ways tending toward the perpetuity of our people.

A lengthy discussion of this paper closed the meeting.

Meeting of January 18, 1910

At the 440th regular meeting, Dr C. Hart Merriam addressed the society on "Myths of California Indians." The speaker confined himself to the three great groups of central California. Their myths, though they are obviously not homogeneous, have the same personages and characters, viz., the pre-Indian inhabitants who disappeared at the advent of the Indians and the coyote man. The myths quoted referred to the acquisition of fire.

In the discussion Drs Fewkes, Swanton, and Hewitt quoted parallels from the Casa Grande, the Northern Pacific, and the Iroquois, respectively.

Dr Walter Hough followed with a paper on "Incense and Incense Burners." The use of incense in America for religious ceremonies has never been very thoroughly studied. The paper treated in a general way of the diffusion of the materials employed and especially of the apparatus in which incense is burned. The discussion was therefore confined largely to the apparatus found among the cultured tribes of Central America, Mexico, and the southwest United States. In the last area

occur forms which are possibly connected with those in Mexico. The paper also discussed the pipe as an incensario.

In the discussion Dr Casanowicz dwelt on the use of incense, in domestic and social life as well as in the cult and magic, among the ancient nations and quoted passages which hint at a daemonifuge background of its use. Mr Hewitt pointed out that among the Iroquois incense is sometimes employed to emphasize a petition. Dr Fewkes referred to the fact that among the Hopi Indians all ceremonies opened and closed with a smoke. Its object is to obtain rain; the smoke is to make a cloud, and the rain-god seeing the cloud would send rain.

Meeting of February 1, 1910

At the 441st regular meeting Dr D. S. Lamb read a paper entitled, "Like Father Like Son: A Study in Heredity."

After a general introduction the speaker gave especial consideration to variations and illustrated with many cases taken from Darwin, Reid, Thomson, Woods, Fay, and others. As to reversions he was inclined to think that many so called reversions are simply arrests of development. He thought that the attitude of writers on heredity now in regard to the inheritance of acquired characters is that of a negative. As to the inheritance of disease there is no doubt that a tendency to disease is frequently inherited. The probabilities are that the sperm or ovum is affected by the disease of the parent. He disbelieved in telegony and maternal impressions. A brief statement was made of the more important theories of heredity; he inclined to the Mendelian principle as set forth by Bateson.

In the discussion Mr G. R. Stetson and Dr G. M. Kober pointed out the importance of the problem of heredity in its relation to practical life, especially to education, marriage, public health, and the treatment of criminals and defectives.

Dr J. Walter Fewkes exhibited and commented on some drawings of divinities, altars, and other paraphernalia of worship made by Hopi Indians under his supervision.

Meeting of February 15, 1910

At the 442d regular meeting Miss Rovenia Buell, of the American School for Classical Studies at Rome, presented a paper on "Amulets," illustrating her discourse with interesting specimens collected by herself, chiefly in Italy. In the making of this collection of Italian amulets the effort has been to bring together those in modern use and their ancient parallels. The sixty specimens may be roughly divided thus:

1. Prophylactics against the evil eye, having in form some relation to a horn and representing phallicism, Diana worship, and defensive symbolism by means of the hand. Examples—a phallus, a tiger's claw, a boar's tusk, a crab's claw, coral and shell horns, lunar crescents, composite horned animals, hands making the sign of the *fico* and the sign of the horns.

2. Amulets that make the sound of metal, hateful to evil spirits. Examples—bells, clashing disks, and pendants.

3. Grotesque and ocular guards against malevolence. Examples—masks, a humpback, compositions or stones resembling eyes.

4. Preventives and cures by suggestion. Examples—a fossilized trochus or "eye of Santa Lucia," for eye maladies; a limonite concretion with a loose inner particle, "*pietra gravida*," for miscarriage; fossilized corals, "witch stone," for witch spells; carnelian and jasper, "blood stones," for heart disease and hemorrhages; bronze and silver fish, for female sterility; a comb, for caked breasts (caused by the presence of a witch's hair); a dried sea horse, to increase milk in the breasts; a red woolen sack containing bread crumbs, salt, incense, and wheat from a field ripe but unspoiled by the harvester's iron, to guard against the evil eye and witchcraft.

5. Charms pertaining to animals. Examples—badger's hairs, for defense against witches; claw of a paradise bird and a monkey's paw, valid against the evil eye.

6. Roman Catholic amulets. (a) Authorized by the church. Examples—the Agnus Dei and medal of St Benedict for divers bodily ills and storms. (b) Unauthorized, but popularly endowed with specific virtues. Examples—the medal of the Three Magi, "witch money"; the medal of St Anthony, Hermit, for animal protection; St Joseph's carpenter's rule for child protection; the pig of St Anthony for luck; the medal of St Andrea Abellina for apoplexy; the coin and the key of the Holy Spirit for infantile convulsions.

Votives. Examples—primitive Etruscan figurines of bronze, 800 B.C.; ancient Roman bead incised *HER*; terra cotta heads.

In the discussion following the reading of the paper Dr J. W. Fewkes dwelt on the amulets used by the Indians, while Dr E. L. Morgan referred to those worn by the negroes of Washington, such as dogs' teeth, etc.

Mr George R. Stetson followed with a paper on "Some Social Fallacies."

It was universally accepted that in the millennium of perfect literacy crime would cease. But as mental culture, which by no means includes

moral education, increases our sensibility and self-esteem, it also increases our ability to accumulate wealth, to acquire social position, and thus to escape the consequences of our criminal acts. The fallacies in the practice and administration of the law are made apparent in its discrepancies and defects. Decisions should be made and punishments administered without sentiment and be reformatory in character and purpose, taking into consideration the apparent motive, the circumstances of the deed, and the culture of the perpetrator. A censure was also expressed against such attorneys as maintain their clients' causes *per fas et nefas*, so that many criminals are shielded from the penalty of their crimes and society is thus rendered defenceless, as is proved by statistics. Indiscriminate mercy as well as indiscriminate punishment is criminal. The power of pardon, which is so frequently abused, should under our form of government be permissible only to the sovereign people in their houses of assembly. Absolute human equality is also a fallacy. Organic equality is nowhere found, nor does equality of opportunity produce equality in results. Hence there is also no economic equality. Absolute political, social, and economic equality would not only check our progress in civilization, but also destroy what we have attained. The fallacy of excessive specialization and division of labor results in mental and physical deterioration, in unrest and discontent. Fallacies in history and literature were illustrated by numerous examples. The fallacies of politics, statistics, and legislation likewise came in for their share, concluding with a discussion of the fallacies of the missionary and civilizing enterprises.

Remarks on the paper were made by Drs Folkmar, Casanowicz, and Lamb, and by Mrs Sarah S. James.

Meeting of March 1, 1910

At the 443d regular meeting of the society Mr William H. Babcock presented a paper on "The Two pre-Columbian Norse Visits to America." So far no reliable evidences of Norse visits have been found on American soil, which is, however, not surprising in view of the great lapse of time, the small number of the visitors, and the short duration of their sojourns. The records of the Norse visits are found in the saga of Thorfinn Karlsefin and the nearly identical saga of Eric the Red. The Flattoy book adds to the number of voyages, exaggerating many of the improbable features, and in other respects exhibiting signs of later development and corruption.

The lecturer gave an exhaustive survey and analysis of the sagas, sub-

jecting their geographical, ethnological, historical, and other data to a thorough and searching criticism. In conclusion, he said: "It seems clear that America was discovered. In addition we may be pretty safe in fixing on the neighborhood of the Bay of Fundy as the chief temporary home of Thorfinn's party in Wineland; and in following his route from Greenland thither, and later around Cape Breton into the Gulf of St Lawrence and back to Straamfirth about as given. All else remains still open to discussion and more or less probable conjecture."

Mr A. P. Bourland followed with an address on "The Study of Culture History in German and American Universities." The speaker gave a description of the "institutes" for the study of culture history established at some German universities. Such an institute is equipped with a series of libraries illustrating the development of the human race in all its aspects and directions, such as industry, arts and crafts, politics, jurisprudence, religion, etc. The creator of these institutes was Professor Carl Lamprecht, of Leipsic, whose conception of history is: The study of the development of human life on its economic and social sides.

Meeting of March 15, 1910

At the 444th meeting Dr Elnora C. Folkmar gave a lecture on "Education; Some Examples among Primitive Peoples." The field covered extended from Australia to Africa. The point brought out by the speaker was that among primitive peoples imitation and object lessons, as it were, take the place of methodical and theoretical teaching and training. The children unconsciously imitate the practices and doings of their elders, and thus successively acquire what knowledge they have and need for life.

In the discussion Dr J. R. Swanton called attention to specialization in training among the Pacific coast Indians. Also the Creek Indians have a kind of graded course of study, especially for the medicine men, with some sort of graduation marks by some insignia, such as a fox's skin, the feather of a buzzard or owl. Mr J. N. B. Hewitt pointed out that among the Iroquois education does not stop with childhood. The adults are trained in the knowledge of the tribal laws and customs and in what may be called intertribal law and diplomacy, such as the treaties and pacts entered into by the tribe with other tribes, as also in the elaborate ritual connected with certain tribal events, such as the installation of new chiefs. Dr J. W. Fewkes dwelt on education among the Hopi Indians.

Meeting of March 29, 1910

At the 445th regular meeting the first paper of the evening was on "The White-dog Feast of the Iroquois," by Mr J. N. B. Hewitt.

The white dog sacrifice of the Iroquois is a congeries of independent rites, ritually interrelated at this ceremony, designed to renew through the orenda or immanent magic power of these rites the life powers of living beings, the fauna and flora of nature, which are ebbing away to their extinction by the adversative action of the powers of the winter god. The embodiment of all life is Teharonhiawagon or the "Master of Life." One of the functions of a tutelary is to reveal in a dream what is needful for the restoration of the life force of its possessor. The tutelary of Teharonhiawagon reveals to him in a dream that a victim, primarily a human being but symbolized by a dog in modern times, with an offering of native tobacco, would restore the life forces which he embodies, and by a performance of all the sacred rites of the people at this time would disenchant them and all his aids and expressions—the bodies and beings in nature. These rites therefore seek to compel the return of the sun, the elder brother of man, to the north from his apparent departure southward. The rites performed at this new year ceremony are the rekindling of new fires on the hearths of the lodges, the disenchantment of individuals by passing through the phratric fires lighted in honor of Teharonhiawagon in the assembly hall, the rechanting of the challenge songs of individual tutelaries to rejuvenate them, the "divining of dreams" for the restoration of the health of individuals, and for the purpose of ascertaining the revealed tutelaries of persons and children who have no tutelaries, the sacrifice of a victim to restore the health of Teharonhiawagon, and finally the performance of the four ceremonies of the tribe, the latter consuming the better part of four days in their performance. Such is in brief the ceremony of the Iroquois Onnonhwaroia or new year festival.

The second paper was presented by the President of the Society, Dr J. Walter Fewkes, on "The Return of the Hopi Sky-god."

The Hopi, said the president, shared with many other tribes of North American Indians, the idea of an annual return in spring time of a sky-god to revivify the earth. This conception, which is widespread among the pueblos, accounts in part for the belief in a future advent of Montezuma, or a fair god, and explains certain ceremonial representations prominent in sun worship. It is so deeply rooted in Hopi myths that we find the return of the sky-god dramatized by a personation of this being accompanied by elaborate rites. From the composite nature of the Hopi ritual, dramatizations of this advent are duplicated, varying somewhat in detail, although remaining the same in general intent.

The sky god is regarded by these Indians as the god of life, who by magic power annually rejuvenates the earth, thus making possible the

germination and growth of crops which furnish the food supply of the Hopi. Some variants of this drama are performed at Walpi in late winter; others in early spring. One of the several presentations mentioned by Dr Fewkes, was the personation of the sky-god which occurs about Easter in a complex drama called the Powamu. The main object of this ceremony is to disarm or disenchant the earth which throughout the winter is supposed to have been controlled by a malevolent being. In this ceremony the sky-god, under the name of "the returning one," is supposed to lead his followers, the clan ancients, or Kachinas to the pueblo, fructifying the earth and thus bringing back the planting and much desired harvest time. Clad in prescribed paraphernalia, the personator of the sky-god, wearing the mask of the sun, enters the pueblo at sunrise from the east, and proceeding to every sacred room and clan house receives the prayers of the owners of the dwellings for abundant crops, giving in return, as symbols of a favorable reply, sprouting corn and beans. As he does so he marks each doorway with sacred meal and bowing to the rising sun beckons to his imaginary followers to bring blessings to the people — blessing always being abundant crops and copious rains.

Certain clans now living in a pueblo near Walpi called Sichumovi, whose ancestors claim to have originally come from Zuni, celebrated the return of their sky-god with slight variations, but with the same intent. The symbolism which distinguished the personators of the sky-god and his followers in this pueblo was brought by clans from Zuni several years ago. Other clans that, according to legends, migrated to Walpi from southern Arizona, perform a characteristic dramatization of the return of their sky-god, the advent of which occurs at the time of the winter solstice. Here the personator of the sky-god represents a mythic bird, whose realistic return is dramatized in the kiva or sacred room. At sunrise on the following morning, accompanied by two corn maidens, the sky-god, no longer a bird personator, distributed seed corn to representatives of the clans of the pueblos.

The ceremonies accompanying the return of the sky-god at the winter solstice are many and complicated. Some of these are designed to disenchant the earth, while others draw to the pueblo the gods of germination. The prayers are said to the plumed serpent, represented by an archaic effigy, to fertilize the earth. A personation of the sky-god carrying the effigy of the plumed serpent, emblematic of lightning, forms one act of the great theatrical ceremony in the month of March; this act is performed at night in the kivas in the presence of the whole population of Walpi and neighboring villages, and represents the return of the sky-god and the

renewal of life on the earth made dormant by the sorcery of evil-minded gods.

Meeting of April 12, 1910

The 446th regular meeting of the Anthropological Society was devoted to the retirement address of the President, Dr J. Walter Fewkes. Dr Fewkes took as the subject of his address "Cave Dwellers of the Old and New World," the full text of which will be published later.

The unity of the human mind, said the speaker, has come to be one of the most fruitful working hypotheses in the science of Culture History. Identities in human culture, under similar climatic and other environmental influences are among the strongest evidences that can be adduced in support of this theory. As human habitations, the most characteristic of racial artefacts, reflect better than all others the effect of environment, the object of the address was to indicate the bearing of a comparative study of cave dwellings from different geographical localities on the theory of mental unity.

A people of nomadic life whose habitations from their mode of life are perishable has little stimulus to construct lasting monuments. Sedentary people on the other hand construct habitations of material that will endure; caves, when available, naturally first afforded shelter for races seeking permanent dwellings.

It is difficult to find a primitive race where human culture has reached any considerable architectural development that has not, at an early cultural period, lived in caves or holes in the ground. Life in caves leads to buildings made of stone or other lasting materials. Permanence of building perpetuates racial traditions, serving as a constant incentive to the construction of architectural monuments.

A study of the distribution of prehistoric cave habitations reveals a marked uniformity of cave dwellings in regions of the earth geographically far apart. Prehistoric cave dwellings of similar form may be traced from China across Asia and on both shores of the Mediterranean, in Mexico, Peru, and the southwestern part of the United States. This distribution corresponds in a measure with that of great prehistoric monuments and follows closely that of the arid region.

Caves as habitations are divided into two types, natural and artificial. The address treated more particularly of the latter, but views of both from the old and new world were shown.

The European natural cave as a shelter is prehistoric, having been abandoned in very early times. The natural caves of Cuba, Hayti, and Porto Rico were, however, inhabited by primitive men of low culture and characteristic speech when America was discovered.

Artificial caves in the Verde Valley, Arizona, were shown to resemble those in Asia Minor, the Crimea, Caucasus mountains, and Canary Islands. Exact counterparts of the "Tent Rocks" or "Cone Dwellings" of the Otowi Canyon, in New Mexico, occur in Cappadocia near Caesarea Mazaca. Views were shown illustrating the resemblances between certain cliff houses in Arizona and monastic establishments in Thessaly. The speaker called attention to an inhabited subterranean village Matmata, in northern Africa, and underground habitations, now deserted, in volcanic cones near Flagstaff, Arizona. The resemblance in architecture of a Berber village in the Sahara to a Hopi pueblo, was incidentally considered.

Views were shown of Oriental rock temples, the most striking of which were those of the rock city, Petra, in Syria, which was characterized as the most exceptional cliff ruin in the world.

Meeting of April 26, 1910

The 447th regular meeting of the Anthropological Society was also its 31st annual meeting.

The meeting opened with reading of the minutes of last year's annual meeting. The Secretary then read a report of the activities of the Society during the last session which, briefly stated, was as follows: The Society held 14 meetings with an average attendance of 64 members and guests. At these meetings 20 papers were presented by 16 contributors.

The President, Dr J. Walter Fewkes, commemorated in a few appropriate words the members of the Society who during last session departed this life, viz.: Prof. Enrico Giglioli of the Museum of Florence, Italy, who was an honorary member, and Prof. Simon Newcomb and Mr W. C. Whittemore, active members.

The Society then proceeded to the election of officers, which resulted as follows:

President, J. Walter Fewkes.

Vice-President, George R. Stetson.

Secretary, I. M. Casanowicz.

Treasurer, George C. Maynard.

Additional members of the Board of Managers (besides the former Presidents of the Society who are *ex officio* permanent members of the Board): William H. Babcock, J. N. B. Hewitt, David Hutcheson, Edwin L. Morgan, John R. Swanton.

I. M. CASANOWICZ,

Secretary.

BOOK REVIEWS

Le Parler populaire des Canadiens-Français ou lexique des canadianismes, acadianismes, anglicismes, amèricanismes, mots anglais les plus en usage au sein des familles canadiennes et acadiennes françaises, comprenant environ 15,000 mots et expressions. Par N.-É. DIONNE, M.D., LL.D., avec Préface par M. RAOUL DE LA GRASSERIE. Québec: Laflamme et Proulx, 1909. Pp. xxxiv, 671.

Hitherto S. Clapin's *Dictionnaire Canadien-Français*, published in 1895, has been the most extensive lexical record of the folk-speech of the Canadian French. This new lexicon by Dr Dionne, the well-known librarian of the Provincial Assembly of Quebec and Professor of Archeology at Laval University, deserves mention here on account of the numerous words of American Indian origin contained in the Canadian-French language both spoken and written—a topic to which the author of this review and Professor A. M. Elliott have both devoted special monographs. Omitting certain proper names, the chief words listed by Dr Dionne (who does not always indicate their Indian origin), which are derived from the speech of the American Indians north of Mexico, are: *achigan, assinabe, atoca, atosset, attikameg, babiche, bogane, canaouiche, cazagot, chiben, couac, kakawi, machicotée, malachigan, mascouabina, maskoutin, mitasse, mocassin, moniac, moyac, nagane, oka, ouananiche, ouaouaron, ouigouam, péthane, pimkina, saccacomi, sagamité, sagamo, sasagua, savoyane, squaw, tabagan, tobogane, tuladi*, etc. Although there are a few words cited here that do not appear in the dictionary of Clapin, Dionne does not appear to have paid so much attention as has the former to this element in the vocabulary of Canadian-French, for there are also not a few omissions. The effect of the contact of two such languages as English and French is represented in this volume in innumerable ways of interest to the psychologist and the comparative philologist. Dr Dionne's dictionary, as the sub-title indicates, treats particularly of "Canadianisms, Acadianisms, Anglicisms, Americanisms, etc.," in common use "in the bosom of the family." That such words and expressions (and the tale is by no means exhausted in this book) should number 15,000 testifies alike to the vitality of the French language in Canada and to the wonderful influence of the modern English tongue upon other forms of speech.

ALEXANDER F. CHAMBERLAIN.

Naturwissenschaftliche Wegweiser. Sammlung gemeinverständlicher Darstellungen, Series B. Herausgegeben von Professor Dr. KURT LAMPRECHT, Band 2. Menschenkunde. Ausgewählte Kapitel aus der Naturgeschichte des Menschen. Von GEORG BUSCHAN, Dr. med. et phil. Mit 3 Tafeln und 80 Textabbildungen. Stuttgart: Verlag von Strecker und Schröder, 1909. Pp. vii, 265. Price M. 2 unbound, M. 2.80 bound.

Typical of German appreciation of science is the statement that of this anthropological handbook some 20,000 copies have already been issued by the publishers. The author, Dr. George Buschan, was a pupil of Ranke, afterwards a physician in a lunatic asylum, then marine health officer in the Imperial service. Besides this, he was for years a reviewer of anthropological literature in the *Archiv für Anthropologie*, and is now the editor of the *Zentralblatt für Anthropologie*, founded by him in 1896. He is the author of a number of valuable ethnological works dealing with Teutonic ethnology, ethno-botany, medical aspects of ethnology, the brain and civilization, etc.; and furnished anthropological and ethnological articles to Meyer's *Konversations-Lexicon*. He is thus most competent for the task he has undertaken, and it is to be hoped that the promise held out of a larger and more technical volume on the same subject will shortly be fulfilled. The present volume (as shown by the title) is not intended to cover the entire anthropological field, as we understand it in America. Apart from a brief section giving a historical sketch of the development of anthropology, and another (briefer) on the classification and division of the science, the "selected chapters from the natural history of man" are devoted to the following topics: General anthropology (Darwinism and its extension; fertilization; inheritance), anthropological methods of investigation (Professor R. Martin's anthropometric apparatus, etc., for travelers is recommended), the external form of man (external characters; stature; weight; growth and its laws; external body-covering; color of skin, hair, eyes), the two sexes, special anthropology (skeleton in general; skull and its soft parts; the soft parts of the head; anthropology of the trunk, limbs, viscera, etc.; anthropology of sexual life; origin of sexes; influence of castration; righthandedness and lefthandedness; the position of man in the animal series and his descent). There are two good indexes, of subjects and authors cited. These American writers and investigators figure in the list: Allen (H.), Bean (B.), Boas, Bowditch, Brinton, Channing (W.), Dana, Gould (B.), Fishberg, Hodge (F. W.), Hrdlička, Talbot (E. S.), West (G. M.), Wilson (D.), not a very extended roll.

Dr. Buschan's classification of the science of Anthropology is this:

A. Physical Anthropology.

1. General physical anthropology.
2. Special or systematic anthropology (anthropography and anthropogeny).

B. Ethnic Anthropology.

1. Ethnography (modern ethnography and paleoethnography).
2. Ethnology (modern ethnology and paleoethnology).

Ethnography is "descriptive," ethnology "analytic and comparative." Prehistory is regarded as "a branch of general ethnology, tending more and more to break away from anthropology and to become an independent science." Dr Buschan's evolutionary position makes man and the anthropoids "cousins," descendants from a common ancestral stock. He rejects the monogenistic theory of Klaatsch, which holds Australia to have been the theater of the change from animal to man. His views on this point are as follows: "I cannot adopt the theory of the origin of the human race at one place only. My opinion is that this must have occurred at several different places on the globe. The regions between the peninsula of Hindustan and Australia, forming, in the Tertiary period, and probably even later, a large continent, may have been one scene of the appearance of man (e. g., for the black race). A second must have been situated in the north of Europe (for the white race), and a third, perhaps, north of the Himalayas, in Central Asia. But these are all conjectures, that still lack proof" (p. 256). The "pigmy races" Dr Buschan regards as not at all examples of "human degeneration" as they have been considered in some quarters, but as "the remains of a primitive race, once spread over the southern regions of Africa and Asia, but now for the most part extinct (except, e. g., the African pigmies), or mixed with other races" (p. 44). In America, as he rightly states, no true pigmy tribe has ever been discovered. Apparently, the author does not mention or discuss the Kollmann theory of the primordial pigmy races and the development from them of the now existing taller races. No race of real giants exists to-day, and none has in all probability ever existed upon the globe. Such giants as are on record from time to time belong to one of three classes, — infantile, acromegalic, and a combination of both. As to the effect upon stature of mountain-residence, climate, town and country, etc., there is still a good deal to be said on both sides (pp. 45-47). Of dwarfs the "pathological" variety occurs much more frequently than the "true dwarfs," who are only "harmonically built human beings, that, in all their proportions, have remained behind normal men and women" (p. 54). As to stature

and genius, Dr Buschan cites Popper, but not Lombroso or Havelock Ellis. Popper not only seeks to correlate genius with short stature, but maintains further that "the longer the trunk of an individual is, in proportion to his lower limbs, the greater his genius." This view, as the author notes, demands confirmation from further and more extensive investigations. In the matter of the development of the body during childhood and youth Dr Buschan seems to largely follow Stratz, in his recognition of the "neutral" (1-7 years), "bisexual" (8-15 years), and "pubertal" (15-20 years). With reference to the point at which the highest limit of growth is reached considerable racial differences are on record, but some of these may be due to imperfect or insufficient observations. (p. 78).

The "pinkish" color at birth of individuals of the white race is considered by Dr Buschan, to be not a reversion toward dark-pigmented ancestors, as some ethnologists have maintained, but rather the result of respiration during fetal life and its influence upon the color of the blood (p. 94). In all human races the new-born children are lighter in color than adult individuals. The so-called "Mongolian spots (blue spots)," according to the author, are, perhaps, best interpreted with Bälz, as a peculiarity of the Mongolian race, their occurrence in other races being due to mixture with the Mongolian. This opinion, the reviewer thinks, is not justified by the evidence in hand. Racial smells are touched upon (p. 99) and the unsatisfactory nature of the explanations offered noted. To the consideration of the hair are devoted pages 101-123, treating of its normal and abnormal aspects. The home of the blond variety of European man, Wilser's *Homo europaeus dolichocephalus flavus*, is to be sought in Sweden, whence, even in prehistoric times, it had already made its way as far south as northern Africa. The presence of blondes among the Jews of Palestine is thought to be capable of explanation on the basis of mixture with the Amorites, "a people who were probably of Nordic origin, and therefore cognate with the North-European blonde race (p. 122)." This explanation, however, is not quite satisfactory, and the hypothesis of one sole and singular blond race in prehistoric times is only a last resort. The anthropology of sex is treated on pages 123-150, with a discussion of sexual life, the origin of sex, influence of castration, etc., on pages 229-247. Dr Buschan agrees with those who assign to woman a degree of variability less than that of man and a closer approximation in physical conformation to the child. The psychic differences between the sexes, although still notable on occasion, "tend more and more to disappear with increasing culture" (p. 142). Part of the female

character is evidently to be explained on a natural basis, part also from association with the other sex. In the section on the skull the author, taking note of the recent work of Von Török, etc., cautions against dogmatism in connection with the relations of race and cephalic index, skull-form, and the like (p. 157). Regarding cranial capacity, he holds that "peoples belonging to a low stage of culture possess a much smaller cranial capacity than do the civilized races"; also "long continuing culture increases the brain weight, and correspondingly likewise the cranial capacity" (p. 160). Brachycephalic (and mesocephalic) skulls seem, Dr Buschan thinks, to have generally greater cranial capacity than dolichocephalic. He doubts the inheritability of the skull-types set up by Sergi (p. 108). Microcephaly is looked upon by him, not as an atavism, but as due to some disturbance within the brain itself. From microcephaly is to be distinguished naniocephaly, a normal reduction of the skull in all directions. Walkhoff's theory of the development of the chin in connection with the evolution of articulate speech is rejected (p. 181). The red of the lips is recognized as a specifically human character (p. 193). The difficulty of making the ear serve as a race-mark is noted, and the fact pointed out that the ear of woman is not, as to form, nearer that of the child than is the ear of man. In spite of the already quite numerous investigations of the brains of individuals of various races the results for racial differentiation are altogether meager and unsatisfactory (p. 206). Dr Buschan accepts the view of Klaatsch that the human hand is no specific property of the species, no new thing acquired in the course of human evolution. "primitive inheritance of tertiary ancestors" — the creodonts of the eocene period, the oldest of the land-mammals, indeed, already possessed a hand like that of the primates of to-day, with a well-developed opposable thumb, a character lost by the other mammals. In the discussion of righthandedness and lefthandedness (pp. 248-251) a physiological (blood-supply to opposite brain hemisphere) solution of the problem is favored. With respect to the assumption of the upright position Dr Buschan inclines toward the "climbing" theory of Klaatsch.

For the ground covered this book is an interesting and informing manual of physical anthropology. ALEXANDER F. CHAMBERLAIN.

Dictionary of American Indian Place and Proper Names in New England; with many Interpretations, etc. By R. A. DOUGLAS-LITHGOW. Salem, 1909. 8°, pp. xxi, 400.

This gazetteer of some six or seven hundred names and variants is without question the most comprehensive and satisfactory compendium of

New England Indian local and personal names that has yet appeared. Without claiming any philologic knowledge and very sensibly declining to attempt the profitless task of etymologic analysis, the author has brought together in concise grouping every important form and every notable interpretation, together with the reference to the authority, leaving the reader free to sift the evidence for himself. Unlike some others who have worked in the same field he does not go to Virginia or Lake Superior for his etymologies or imagine some improbable incident to support an impossible rendering. It cannot be too strongly emphasized that Indian etymologies depend often upon such minute or even trivial circumstances or such nice phonetic distinctions that they are seldom of value except when obtained by a trained student of the language from the recognized tribal authorities. Even when the language has been fairly well preserved, which is rarely the case in the eastern states, we can seldom be sure that the Indian form has been correctly recorded. Thus for Neutaconkanut, Dr Douglas-Lithgow gives sixty spellings, while for Winnepesaukee, to which he devotes a special chapter, he tabulates one hundred and thirty-two. When we find Woonsocket given by one writer as meaning "deep descent" and by another as "pond on a hill," or Willimantic variously claimed as "good lookout," "cedar swamp," and "where it winds about a bold hill" it is evident that one guess is nearly as good as another, and when we find Neponset wavering between "good fall," and "he walks in his sleep" we are justified in refusing to follow either, and in confining ourselves to the safer statement "meaning uncertain."

The place names of each state are treated separately. There is an extended list of general names with biographic data, a very good descriptive list of New England tribes and bands, and a linguistic appendix. In the tribal list *netops* is not a band name, but means simply "friends," in this case the friendly Sogkonate; the Wabinga of Jefferson are the well known Wappinger, distinct from the Mahican; while in the Zoqueageers we may recognize the Sokoki. The print and binding are excellent.

JAMES MOONEY.

Source Book for Social Origins: Ethnological Materials, Psychological Standpoint, Classified and Annotated Bibliographies for the Interpretation of Savage Society. By WILLIAM I. THOMAS. Chicago: The University of Chicago Press; London: T. Fisher Unwin, 1909. 8°. pp. 932. (\$4.77 postpaid.)

This is the first work dealing with the social condition of primitive races that has given the reviewer real satisfaction. "It had its origin,"

Professor Thomas informs us, "in the necessities of the classroom," and it professes to be not so much an original work as an introduction to the literature of the subject under discussion. From this point of view alone Professor Thomas has done anthropologists, particularly American anthropologists, an immense service by bringing their work before students in other fields who are still in the habit of quoting Morgan's *Ancient Society* as embodying the very latest results in anthropological investigation in America, and whose supplementary reading does not seem to extend much beyond Dobrzhoffer, Schoolcraft, Bancroft, and one or two works on the natives of Australia.

Professor Thomas divides his subject into seven parts: (1) The Relation of Society to Geographic and Economic Environment; (2) Mental Life and Education; (3) Invention and Technology; (4) Sex and Marriage; (5) Art, Ornament, and Decoration; (6) Magic, Religion, Myth; (7) Social Organization, Morals, The State. Each of these consists of from five to ten selections from leading writers in the branch under discussion, a few pages of comment, and an extensive bibliography. Lengthy supplementary bibliographies covering the various geographical areas of the world, and two excellent indices close the work. These bibliographies alone show an immense amount of painstaking research, and although marred by some unfortunate errors in proofreading, by themselves constitute a sufficient reason why the work should be in the possession of every anthropologist. An analysis of the selections entering into these show forty-five from F. Ratzel; five from A. W. Howitt; four from Herbert Spencer; three from Spencer and Gillen; two each from O. T. Mason, Franz Boas, W. I. Thomas, A. Lane-Fox Pitt-Rivers, E. B. Tylor, Edward Westermarck, and L. H. Morgan; and one each from Ellen C. Semple, W. J. McGee, William I. Sumner, H. Ling Roth, Karl Bücher, W. H. R. Rivers, Ernest Crawley, A. C. Haddon, W. H. Holmes, Ernest Grosse, R. Wallaschek, Yijō Hirn, J. G. Frazer, J. W. Powell, Hutton Webster, and William Jones. Considering the purpose of the work probably most would agree that the selections are well made, the names of all but a few of the contributors being familiar to every working anthropologist. Moreover the relative value which Professor Thomas gives these in his comments is about such as an anthropologist would place upon them, setting up as he does as standard authorities such papers as Boas' "Mind of Primitive man," and the "Algonkin Manitou" of the lamented William Jones, to whom, by the way, the work under consideration is dedicated.

To illustrate the common sense attitude which Professor Thomas main-

tains in discussing the material thus gathered together by him I cannot refrain from reproducing the following paragraphs from his introduction, hoping they may have a wide reading.

"Finally, I wish to warn the student to be suspicious of what may be called the particularistic explanation of social change. Some years ago, when it was the habit to explain everything in terms of 'the survival of the fittest,' an ingenious German scholar put forth the theory that the thick crania of the Australians were due to the fact that the men treated the women with such violence as to break all the thin heads, thus leaving only thick-headed women to reproduce. A still more ingenious German offered as an explanation of the origin of the practice of circumcision the desire of certain tribes to assure themselves that there should be no fraud in the collection of trophies in battle. This was assured by first circumcising all the males of one's own tribe. Under these circumstances certitude was secured that any foreskins brought in after battle with uncircumcised enemies could not have been secured from the slain of one's own party. Lippert, the great culture-historian, has argued that the presence or absence of the milk of domestic animals has sealed the fate of the different races, pointing out that no race without milk has ever risen to a high level of culture. He is also responsible for the suggestion that man took the idea of a mill for grinding, with its upper and nether mill-stones, from the upper and lower molars in his own mouth. Pitt-Rivers says that the idea of a large boat might have been suggested in time of floods, when houses floated down the rivers before the eyes of men. I think that even the eminent ethnologists Mason and McGee err in this respect when they suggest the one that 'the hawks taught men to catch fish, the spiders and caterpillars to spin, the hornet to make paper, and the cray-fish to work in clay,' and the other that plants and animals were first domesticated in the desert rather than in humid areas, because in unwatered regions plants, animals, and men were more in need of one another and a greater tolerance and helpfulness. In fact a variorum edition of the theories of the origins of culture would be as interesting as Mr Furness' variorum edition of Hamlet, which, while it was not, I believe, prepared with that in view, is yet one of our great storehouses of amusement.

"Some of these theories are simply imaginative and absurd, and others are illustrations of the too particularistic. Doubtless milk is a very precious possession, but so also is iron. No race ever attained a considerable level of culture in the absence of iron. And it would be possible to name a number of things which races of high culture possess

and races of low culture do not possess. The idea of crushing, pounding, and rubbing is much too general to warrant us in saying that the idea of the mill is derived from a human mouth. When man has once a floating log, bark boat, or raft, he can enlarge it without assistance from floating houses. The growth of plant life and the idea of particular attention to it are too general to depend on any particular kind of accident, or on a desert environment. Animals follow the camp for food, they are caught alive in traps, and the young ones are kept as pets; and this would happen if there were no desert regions. Two of Herbert Spencer's great and gross errors of this character — the derivation of all the learned and artistic occupations (even that of the dancer) from the medicine-man, and the assumption that ghost-worship is the origin of all spirit belief and worship (even of the worship of animals and plants) — I have considered in Parts II and VI of this volume.

"The error of the particularistic method lies in overlooking the fact that the mind employs the principle of abstraction — sees general principles behind details — and that the precise detail with which the process of abstraction begins cannot in all cases be posited or determined. Thus the use of poison was certainly suggested to man by the occurrence of poison in nature, and in some crisis it occurred to man to use poison for the purpose of killing. And since the snake is the most conspicuous user of poison in nature it has usually been said that man gets his idea from the snake, and that the poisoned arrow-point is copied from the tooth of the poisonous snake. I have no doubt that this thing frequently happened in this way, but there are also various other poisons in nature. The deadly curare with which the Guiana Indian tips his tiny arrows is a vegetable product. The Bushmen use animal, vegetable, and mineral poisons, and a mixture of all of them, and the Hottentots manufacture poisons from the entrails of certain insects and from putrefying flesh. In short, assuming poison in nature and the arrow in the hands of man, we can assume the development of a poisoned arrow-point even if there had been no such thing as an envenomed serpent's tooth."

By primitive people we commonly find that explanation of the existence of an object or institution accepted which is the cleverest, and correspondingly many *students* of primitive people appear to think it their duty to suggest an explanation more striking or ingenious than has yet appeared, apparently with the idea that the most ingenious explanation is necessarily the truest. Such single concrete explanations, being more readily grasped, do indeed prove especially attractive to the young and to persons with undeveloped and untrained intellects, and it is therefore

most important that this attraction be counteracted promptly in works like the present intended for beginners and as school or college text-books, in which capacity we hope to see it extensively employed.

JOHN R. SWANTON.

Yana Texts. By EDWARD SAPIR. *Together with Yana Myths* collected by ROLAND B. DIXON. University of California Publications in American Archaeology and Ethnology, Vol. 9, No. 1. Berkeley, California: University Press, February, 1910. 8°, 235 pp.

In 1903, at a time when a record of American Indian literature was still somewhat of a novelty, Jeremiah Curtin, widely known as the translator of *Quo Vadis*, published a volume entitled "Creation Myths of Primitive America." This work contains twenty-two mythological tales obtained from little known and nearly extinct tribes of North Central California, the first nine from the Wintun, and the remaining thirteen from the Yana Indians. Further than this no information is given concerning the collection of myths; names and narrators and even localities are nowhere to be found. The book contains no record of Indian speech with the exception of a few names, spelled without the use of diacritical signs and not accompanied by etymologies. Curtin's tales are impressive, and the scientifically minded among the many readers of his book must inevitably have wished that more, and more exactly and completely annotated material, might be collected from these little known tribes ere too late, and that a record might be made in the Indian tongue as well as in translation.

Dixon and Kroeber in their "Native Languages of California"¹ make it seem even more important that a record of Yana be made. These authors represent the Yana language as anomalous, showing no structural affinities with neighboring languages of the "Central California type" such as Wintun and Maidu, or indeed with any tongue of California. Yana stands out on their linguistic map of California like the white spot representing Christianity on the missionary's inky chart of China.

Dr Kroeber's "Indian Myths of South Central California"² only partially satisfied us by stating after reviewing Curtin's myths, "Dr Dixon has collected myths among the Yana, but they are as yet unpublished."

The rescuing of Yana language and lore for the future has fallen to Dr Edward Sapir, and in the volume cited above he has performed this

¹ *American Anthropologist*, Jan.-Mar., 1903, pp. 1-26.

² *Univ. Calif. Publ. Am. Arch. and Ethn.* 4, 1907, pp. 179.

task in a very creditable manner. There are 195 octavo pages of Dr Sapir's texts accompanied by interlinear and free translations and notes. Three myths and a translation of Curtin's "The Finding of Fire," 45 pages, are in the *Gat'i* or Northern dialect obtained near Round Mountain, Shasta County. There are also 25 pages of short narratives and accounts of customs in this dialect. Nine myths, 124 pages, are in the *Gat'a'i* or Central dialect collected in the neighborhood of Redding, Shasta County. The Southern dialect of Yana is discovered to be extinct, although it was the childhood language of one of the informants. No native name is given for the Southern dialect. Dr Sapir's informants were only two in number: Betty Brown (*Ts'i'daimiya*), since deceased, for the Northern; Sam Bat'wi for the Central. For linguistic purposes a record of the speech of several individuals speaking each dialect ought to have been made.

To Dr Sapir's material are added fifteen myths, 36 pages, obtained by Dr R. B. Dixon, only two of these being accompanied by Indian texts of which Dr Sapir has slightly changed the orthography to conform with that of his own text — generally speaking a rather dangerous procedure. Like Dr Sapir's material that of Dr Dixon was obtained from both Northern and Central sources, his informants having been Round Mountain Jack, since deceased, and Sam Bat'wi.

Information was gained by Dr Sapir to the effect that Curtin's myths were collected from Northern and Central sources also, his two informants, since deceased, having been Round Mountain Jack and "The Governor," who resided near Round Mountain and Redding respectively.

The rescuing was performed none too soon. Seven or eight persons know Northern Yana (p. 129, footnote), while of the four or five individuals who speak the Central dialect only one, Sam Bat'wi, knows any myths (p. 6, footnote); and Southern Yana is extinct.

There appears to be some incongruity in the use of macrons and circumflexes. We read:

a short as in Ger. Mann

ā long as in Ger. Bahn

e short and open as in Eng. met

ê long and open as in Fr. fête.

o short and open as in Ger. dort

ô long and open as in Eng. saw.

i short and open as in Eng. it

ī close and open as in Eng. eat, not necessarily long unless accented.

u short and open as in Eng. put

a close as in Eng. spoon, generally long.

Is it advisable to use the circumflex to indicate vowel openness or the macron to indicate anything other than vowel length, and are the usages of macrons and circumflexes above consistent?

Quoting again, "Superior vowels (^h, ⁱ, ^u, rarely ^e, and ^o) are whispered and accompanied by aspiration of preceding consonant. Thus frequently syllables consisting of voiced consonant and vowel are written superior to indicate whispering, e. g. ^h, ⁱ" (p. 4). Whispering is produced by a peculiar narrowing of the glottis; we should expect in a language of the phonetic character of Yana that such sounds are merely unvoiced, and not whispered. The sounds written thus occur very rarely in the text, it seems invariably in auslaut and frequently in connection with a glottal stop. Thus (p. 1) dila'u'', die; tra'm', grandmother. On page 5 UNVOICED w is mentioned as occurring as a syllabic final, and UNVOICED l, m, and n are spoken of as occurring generally before a glottal stop. However, instead of voiceless y we read "whispered y" (p. 5). Furthermore, words pronounced in a whisper are designated by footnotes on pp. 16, 26 (twice), 81 and 97, which seems to show that the recorder himself recognized sounds as distinct from those which he writes by superior letters.

It is not stated which element of Yana diphthongs bears the stress accent (p. 5). In the text the stress accents appear between and separating the two elements of the diphthong. The principle employed seems to be to write the accent after the more open (more stressed?) element of the diphthong.

The glottal stop is indicated by an italic variant form of Greek epsilon written superior. It would be more reasonable to write superior Hebrew aleph or some other letter which originally has or had this sound-value. Few or no arguments can be produced in favor of using the superior variant epsilon, although it is coming into vogue with several Americanists. Its writing requires two strokes; and its printing, a type specially founded. It is perfectly confusable with the ^e superior of the Ass. Phon. Int. The ordinary printer has to set it up as an ^e superior, which leads to the wildest confusion. It is wider than the apostrophe and thus sprawls the word. It is unintelligible to the lay reader, while the apostrophe when used in this function is by such not pronounced at all, and "ils sont peux qui savent le différence." The well-established employment of the apostrophe to represent the glottal stop can hardly be improved upon — it is a single stroke, and a universally obtainable character for an almost universally frequent sound. *Le Maître Phonétique* and also

Professor Hempl suggest slight modifications of the apostrophe. It has been suggested that the use of the apostrophe be restricted to designating glottal action synchronous with the buccal, while epsilon is employed to indicate glottal action immediately following the buccal. Would this not be employing two totally distinct characters for one sound, namely, the glottal stop? It should be noted, moreover, in this connection, that German phoneticists have distinguished and clearly described not two, but six or more distinct varieties of glottally affected buccal stops in the languages of Europe alone. Now would it not be consistent with the epsilon system to represent each of these six or more varieties by a different superior character? Is there any one language in which more than one of the many varieties of glottalized mouth-stops occur? Would it not be sufficient for all practical purposes to describe the production of the glottally modified stops in the phonetic key? Should it, however, seem necessary to draw nice distinctions, the apostrophe is capable of many variations by slightly changing its size, shape, or position. Greater than the need of expressing such subtle differences would seem to be that of distinguishing orthographically between the glottal stop of these mouth-glottis consonantal diphthongs and the glottal stop as it appears in vowel opening, closing, breaking, doubling, and elsewhere. The employment of two or three slightly variant forms of the apostrophe to indicate different degrees of sonority or force of glottal stops would perhaps be a very practical device.¹

We are glad to see no special characters employed to designate velars of the sort that appear only before back vowels.

The "intermediate" stops, e. g. sounds lying acoustically between b and p, d and t, etc., respectively, are expressed by the roman sonant letters. Thus the orthography is b, d, g, for example, where other recorders write p, t, k. It is high time that some uniformity be arrived at with regard to the writing of these sounds. To illustrate prevalent inconsistency compare Boas' versus Hewitt's spelling of Iroquois (*Putnam Anniversary Volume*, 1909, pp. 431-5).

J has its French sound; c equals English sh. Both of these values will eventually have to be changed to conform to extra United States Americanist usage.

"Fortes" occur and are not written as choked stops, although just how they differ from the latter is not made clear.

Those students who do not believe in burdening their texts with

¹ The superior comma is called apostrophe rather than smooth breathing since it is improbable that the Greek *spiritus lenis* indicated a glottal stop.

orthographic niceties will hardly look with favor upon the occasional use of *s* to represent a sound vaguely defined as midway between English *s* and *sh*. Would not either *s* or *sh* have been sufficient? A similar contingency arises in recording Ute, where *s* suffices. It should also be remarked that *z* does not appear at all.

Unvoiced or voiceless *w*, *l*, *m*, *n*, are indicated by italicizing; in italic words they are roman. Here we have the ugly practice of font mixing, which, in truth, is not always easily avoidable. The use of the symbols of the Ass. Phon. Int. for these sounds would be a great improvement.

It is as strange to read that *h* and *x* are variants of one sound as that *k* and *p* were variants of one sound. The difficulty of studying posterior fricatives is granted. However, it would be desirable to determine whether this sound is a larynx- or a mouth-sound.

Superior *w* expresses a glide commencing certain back vowels. Inasmuch as superior type are otherwise used to represent "whispered" vowels, this is confusing. The same might be said of superior *n* used to indicate nasalization, which occurs only in interjections.

Just what is meant by *ll*, *nn*, *mm*, is not clear. It is doubtful whether in a purely phonetic system of writing one has a right to double a letter to indicate length. Would not the same system which writes long *l* as *ll* have to express long *a* by *aa*, and could *p* with pre-plosive hold be represented by *pp*?

The acute accent placed after a vowel indicates vowel or syllable stress, the grave accent secondary stress. The standard " of our dictionaries seems preferable for secondary stress accent. Musical pitch- or leap-accent is in no wise indicated nor even mentioned.

Notwithstanding these criticisms the texts are probably among the most accurately written that have appeared.

Judging from Dr Dixon's outlines of Wintun grammar (*Putnam Anniversary Volume*, 1909), the individual sounds of Yana are not very different from those of Wintun.

The division of "words" or "terms" into syllables or particles is not indicated,—and perhaps this may prevent mistakes. The device of placing the translation of the word directly beneath it, familiar as that of school "ponies" and employed in most interlinear Indian texts, is here abandoned. The Indian words all stand the same distance apart, being separated by 2-m quads. The English words are separated uniformly by single spaces. Vertical bars break the English translation into words or groups of words, and thus meaning-equivalency is traced. This system

doubtless spares the type-setter some labor and thus may bring about saving in expense. No space is saved, however, since two lines are always left for the translation in case it occupy more than one line. But whatever saving there may be is much more than offset by the strain on the eyesight occasioned by connecting word and translation, which is even greater than in the alphabetic vocabulary system. If the texts were used in schools the students would probably do what we all feel like doing — would draw lines from Indian word to translation.

Many interesting grammatical features are apparent even in a cursory reading. It is to be hoped that these texts have been supplemented by copious material for grammatical data not contained in them, that a Yana grammar will be brought out by the author in the near future.

Each text is followed by a very readable English translation. Brief outlines or abstracts of the myth-texts ought also to have been given. Abstracts greatly facilitate myth-comparison, and are best made by the recorder himself. They should not be omitted even when texts are collected primarily as a basis for language study. For, although for linguistic purposes the myth ought to be recorded in full, to meet the needs of comparative mythology neither vernacular, style, nor even characters are important; incidents alone are significant. And it is imperative that these incidents be presented in the briefest form possible.

It is generally understood that Dr R. B. Dixon who is making a most extended and thorough study of the tribes of North Central California will in the near future adequately discuss Yana mythology in connection with the other mythologies of that region.

JOHN P. HARRINGTON.

The People of India. By SIR HERBERT RISLEY. Calcutta: Thacker, Spink & Co.; London: W. Thacker & Co., 1908. 8°, pp. 289 + clxxxix, 24 pls., map.

Anthropologists are indebted to Sir Herbert Risley for the elucidation of that most complex problem in ethnic classification, the people of India, who at the last census were credited with 157 distinct languages, 22 of which are each spoken by over a million people. In this enclave are found not only more languages than are spoken in the entire Western Hemisphere, but widely diverse types of men isolated by the remarkable environmental conditions which have protected India from contact with exterior populations. India comprises three main regions — the Himalaya, where there is an admixture of Mongolian blood; the Middle Land, the river plains of northern India taken by the Aryans; and the Deccan,

which from the earliest dawn of history has been the home of the Dravidians, the oldest of the Indian races. The problem of the races and peoples might have been simple but from the fact that, due to religious influences, there has been a constant flux in which tribes have merged into castes, losing absolutely their identity. This is accomplished, as Sir Herbert interestingly points out, by the aid of fictions by which it is sought to accredit to the tribe an origin from the ruling class of India and the matter is arranged through the good offices of Brahman priests. Heretofore the efforts to classify the Indian peoples were confined to the data afforded by language, but obviously the difficulty of castes prevented satisfactory conclusions. During the 1900 census Sir Herbert introduced the classification by physical types and the results have brought order from chaos. The abundant data secured enable us to divide the people of the Indian Empire into seven main physical types, the distribution of which is plotted on a map bound with the volume.

"Counting from the western frontier of India, we may determine the following distinctive types:

"I. The Turko-Iranian type, represented by Baloch, Brahui, and Afghans of the Baluchistan Agency and the northwest Frontier Province; probably formed by a fusion of Turki and Persian elements in which the former predominate. Stature above mean; complexion fair; eyes mostly dark, but occasionally grey; hair on face plentiful; head broad; nose moderately narrow, prominent, and very long.

"II. The Indo-Aryan type, occupying the Punjab, Rajputana, and Kashmir, and having as its characteristic members the Rajputs, Khatri, and Jats. This type approaches most closely to that ascribed to the traditional Aryan colonists of India. The stature is mostly tall; complexion fair; eyes dark; hair on face plentiful; head long; nose narrow and prominent, but not specially long.

"III. The Scytho-Dravidian type of western India, comprising the Maratha Brahmas, Kunbis, and the Coorgs; probably formed by a mixture of Scythian and Dravidian elements, the former predominating in the higher groups, the latter in the lower. The head is broad; complexion fair; hair on face rather scanty; stature medium; nose moderately fine and not conspicuously long.

"IV. The Aryo-Dravidian type found in the United Provinces of Agra and Oudh, in parts of Rajputana, in Bihar and Ceylon, and represented in its upper strata by the Hindustani Brahma and in its lower by Chamar. Probably the result of the intermixture, in varying proportions, of the Indo-Aryan and Dravidian types, the former element pre-

dominating in the lower groups and the latter in the higher. The head-form is long with a tendency to medium; the complexion varies from lightish brown to black; the nose ranges from medium to broad, being always broader than among the Indo-Aryans; the stature is lower than in the latter group, and is usually below the average by the scale given above.

"V. The Mongolo-Dravidian type of Lower Bengal and Orissa, comprising the Bengal Brahmans and Kayasths, the Muhammadans of eastern Bengal, and other groups peculiar to this part of India. Probably a blend of Dravidian and Mongoloid elements with a strain of Indo-Aryan blood in the higher groups. The head is broad; complexion dark; hair on face usually plentiful; stature medium; nose medium with a tendency to broad.

"VI. The Mongoloid type of the Himalayas, Nepal, Assam, and Burma, represented by the Kanets of Lahoul and Kulu, the Pepchas of Darjeeling, the Limbus, Murmis and Gurungs of Nepal, the Bodo of Assam, and the Burmese. The head is broad; complexion dark with a yellowish tinge; hair on face scanty; stature small or below average; nose fine to broad; face characteristically flat; eyelids often oblique.

"VII. The Dravidian type extending from Ceylon to the valley of the Ganges and pervading the whole of Madras, Hyderabad, the Central Provinces, most of Central India, and Chutia Nagpur. Its most characteristic representatives are the Paniyans of the South Indian hills and the Santals of Chutia Nagpur. Probably the original type of the population of India, now modified to a varying extent by the admixture of Aryan, Scythian, and Mongoloid elements. In typical specimens the stature is short or below mean; the complexion very dark, approaching black; hair plentiful with an occasional tendency to curl; eyes dark; head long; nose very broad, sometimes depressed at the root, but not so as to make the face appear flat."

These types are more exhaustively discussed in the ensuing pages of the first chapter.

In the second chapter Sir Herbert takes up the social divisions, which are either tribes or castes and in turn are further subdivided with reference to matrimonial considerations. He gives the types of tribes, defines caste, and shows the conversion of tribes into castes and the types which are thus formed. There is also here an extended discussion of totemism.

The remaining chapters are devoted to the vexed question of caste and comprise the most thorough treatment of this subject extant. The appendices are entitled: "Caste in Proverbs and Popular Sayings";

"Social Statistics"; "Maps Showing the Distribution of Castes"; "Anthropometric Data"; "Laws on Infant Marriage"; "Modern Theories of Caste"; "Discussion of Kulin Polygamy"; and Appendix VIII, on the "Santal and Munda Tribes."

Sir Herbert's treatment of the subject is lucid and impartial and has the commendation of Hindu scholars. The general reader may gather from his book much that is interesting and valuable concerning the workings of the Hindu mind expressed in proverbs and sayings of the people, while to the student of anthropology the work is the best that has appeared in the voluminous literature on India.

WALTER HOUGH.

Shellmounds of the San Francisco Bay Region. By N. C. NELSON. University of California Publications in American Archaeology and Ethnology, Vol. 7, No. 4, pp. 309-348. Berkeley: University Press, 1909.

Mr Nelson's paper covers in a general way the archeological survey of the shellmounds of the San Francisco Bay region completed by him in 1908 under the general direction of Professor J. C. Merriam who for some years collected data on these remains. The result of this study includes a review of Professor Merriam's data with the addition of much information that is new. The author, however, considers it only a preliminary report as but 3 of the 425 shellmounds examined have been carefully explored. The mounds are confined to a narrow belt around the open waters of the bay and grade off landward into earth mounds of more or less artificial character. An interesting geological feature is the partial submergence of land around the bay which has taken place since some of the deposits were begun, for in some of the mounds the lower layers of shells are below sea level. This subsidence is of such magnitude as to render it probable that a number of mounds have been wholly submerged.

The mounds are generally oblong or oval in outline, with smooth slopes. The longer axis is usually parallel to the shore line. Of late years much of the material composing these heaps has been removed for various purposes, and the artifacts scattered among individual curio seekers. Exclusive of the results secured by the systematic work of the University of California, these collections are small and are, probably, in no case representative of the culture of the region. Usually the mounds lie quite close to open waters, but in a few instances they are some distance back from the present shore. One mound lies nearly one and one-fourth miles from the shore and at an approximate elevation of 225 feet. Another lies over two miles inland and is 125 feet above sea level. Both are very large and probably of relatively

great age. Mr Nelson is of the opinion that the mounds in general are fully as ancient as other known American shell deposits.

The soft-shell clam and soft-shell mussel are common to all the mounds and usually make up the bulk of the material, but the hard shelled clam and mussel, the cockle, abalone, and various small univalves occur. Mixed with the shells is a large percentage of ashes and charcoal and varying quantities of rock and waterworn pebbles. Occasionally there seems also to have been added more or less earth. Bones of a large number of quadrupeds and birds are mixed with the shells but these occur more commonly in the upper layers.

Artifacts and other indications of industrial life are found at all depths but are less abundant in the earlier layers. The implements of later times show a greater degree of specification and perfection of workmanship than those from the older layers, although the change in progress does not appear so clear and marked as one would naturally expect. Spear and arrow points, mortars and pestles, hammer stones, and roughly grooved sinkers were found at all levels in many of the deposits. Highly polished and graceful bone awls, "charm stones," delicately worked stone pipes, bone whistles, stone labrets, certain shell beads and pendants, all appear to be confined to the upper layers of at least some of the largest mounds. Grooved sinkers in great abundance were found in some deposits, while in others close by they were apparently absent. No potsherds were found in any of the mounds. Human remains (burials) were in nearly all the large mounds. The skeletons were in various positions, singly or in groups of two or more, none, however, were found in a sitting posture. The great majority were not accompanied by artifacts although a few pipes and weapons occurred with the remains of men, and a mortar, pestle, and awls with the women. The remains of children were almost always accompanied by beads and trinkets. No careful study of the osteological remains has been made. In conclusion Mr Nelson finds it difficult to reject the opinion that the original migrants who began these refuse heaps were of the same race if not the direct ancestors of the historic Indians of this region. He thinks it possible, however, that a careful study of the remains may lead to a different view. The paper is illustrated by half tone reproductions of eight photographs of the more prominent shellheaps and a large map showing the location of all the shell heaps and minor camp sites of the region.

CHARLES C. WILLOUGHBY.

The Ellis Landing Shellmound. By N. C. NELSON. University of California Publications in American Archaeology and Ethnology, Vol. 7, No. 5, pp. 357-426, Berkeley, 1910.

The Ellis Landing shellmound furnishes incontestible evidence of having survived a considerable subsidence of the San Francisco Bay country which

occurred subsequent to the arrival of primitive men in that region. For this reason it was singled out for special investigation. Excavations were carried on in 1906 by Mr Nelson, and during the following year when the mound material was removed for grading purposes Mr Nelson was present for the purpose of collecting data and the artifacts and skeletons which were brought to light during the excavations. The mound lies in the marsh which fringes a greater portion of the bay shore. About half of it has been destroyed by wave action. This erosion is of recent occurrence, for twenty years ago the refuse heap was not only intact but was protected from the waters of the bay by a strip of marsh 30 to 40 feet wide. The distance eroded in this short time is approximately 200 feet. The base of the mound, now submerged, is about 460 feet by 245 feet. The outline is an irregular oval. The greatest height of the heap was 17 feet above marsh level and its greatest depth below the same level was nearly 16 feet. The vertical distance from its highest point to the bottom immediately below was about 28 feet 6 inches. On a volume basis Mr Nelson estimates its age to be about 3500 years. The mound was used from the beginning as a burial place and probably also as a residence site, there being several house pits in a good state of preservation upon it when first examined. The excavation of 1906 consisted of a trench 108 feet in length and 6 feet wide. This was dug to about six inches below the marsh level, which was as far as the ground waters would permit. The wall was kept straight and perpendicular and its special and characteristic features were charted as the work progressed. The number of artifacts recovered was 78. Besides a large number of animal bones, 16 human skeletons were found, most of them complete and in comparatively good condition. During the removal of the upper portion of the mound material for grading purposes 126 human skeletons were uncovered, and about 265 artifacts were secured.

For the purpose of studying the deposits below water line a shaft was sunk, the water being removed by pumping. The yield of artifacts in this shaft was 38 in number. Scattered fragments of the skeletons of two individuals were found 7 feet below high tide, and two nearly complete skeletons were recovered from near the bottom. No animal bones were found in the lower 8 feet of the shell deposit. The mound was made up mostly of clam and mussel shells, but oyster, cockle, haliotis, and a few other species were found. The lower portion of the mound was composed principally of mussel shells, and only in the upper 8 feet were clam shells at all common. Of the artifacts secured the various well recognized types are mentioned in groups, and only the new forms receive specific attention. Perhaps the most evenly distributed objects were mortars and pestles. They occurred in fragmen-

tary condition at all levels, and only a few unbroken specimens were obtained. In size the mortars ranged from about three inches to eighteen inches in diameter, and the pestles have the same relative variation. Hammer stones, rubbing stones, perforated and grooved sinkers were obtained. More than 70 "charm stones" (pear-shaped pendants) were secured showing the usual variety of forms, these specimens being found only in the upper levels of the deposit. Blades and projectile points, well chipped from chert and obsidian, occurred from the top to the bottom of the mound. Of the few tubular steatite pipes recovered, two of the most interesting were found with a painted skeleton. Bone awls and needles occurred more commonly in the upper part of the mound. Among other bone objects were spatula-shaped implements, notched bones, whistles, and a few other forms, also a few bone and shell ornaments.

Mr Nelson concludes that the material culture of the builders of the mound, represented by a broken chain of evidence only, seems to show that the knowledge and dexterity of the people increased as time went on. The first inhabitants possessed roughly made stone implements; they prepared vegetable food; they knew the use of fire; they painted and buried their dead. The last people to dwell on the mound had well made stone implements, a variety of bone tools, and several forms of ornaments of bone and shell which were similar to those of the historic Indians of central California. The paper is well illustrated by half-tone photographs of the mound and of the artifacts and osteological remains, and by well executed maps, ground plans, and vertical sections.

This publication forms a valuable contribution to the archeological literature of California, and can but prove an incentive to more painstaking and thorough work in the shell mounds of America generally. Perhaps no class of archeological remains furnishes a more consecutive record of the people of a given locality than some of our more extensive shellheaps when systematically and carefully explored.

CHARLES C. WILLOUGHBY.

Ethnologica im Auftrage des Vereins zur Förderung des städtischen Rautenstrauch-Joest-Museums für Völkerkunde in Köln. Herausgegeben von DR. W. FOY, Direktor des Museums. 1, Leipzig, 1909. Verlag von Karl W. Hiersemann. 8°, vii, 282 pp.

Ethnologica, which is to be published in yearly numbers as the organ of the Rautenstrauch-Joest Ethnological Museum in Cologne, is devoted to the culture-historical method of observation and treatment of museum material as opposed to mere catalogue-description. The "culture-historical" point

of view both in large and in small things will dominate, with due attention to comparative ethnology of the true scientific kind. The editor is the competent head of the Museum, Dr W. Foy, who furnishes the first article, a well-illustrated historical account of the Museum, its various departments, activities, plans, etc. (pp. 1-70, 19 figs.).

The beginnings of the Museum go back to 1899, but the new building was formally opened in 1906. Its 23,400 specimens in diverse collections make it "the largest ethnological museum in western and southern Germany," while it is also "the most modern ethnological museum in Europe, and at the same time almost the only one existing independently and free from all other collections, unembarrassed by materials of another sort, and capable of being entirely devoted to ethnological necessities." The total cost of land, building, and equipment was 936,000 Mk., which comparatively moderate expenditure was achieved as the result of careful fore-planning and the avoiding of waste in space and useless ornamentation. The geographical region best represented in the museum is the Pacific Ocean (Südsee), Africa coming next. America and Asia are rather unevenly and incompletely represented in comparison with Africa, and particularly the South Sea.

The arrangement of the material is by culture-element, within culture-areas. Among devices in use or contemplated for the increase of popular interest are the phonograph (e. g. for music), kinematograph, stereoscopic apparatus, photographic post-cards, public lectures, etc. The library contains some 2,980 volumes, including periodicals, etc.

The next article is a monograph (pp. 71-184, 65 figs.) by F. Graebner on "The Ethnology of the Santa Cruz Islands," treating of dress and ornament, houses and furniture, utensils, etc., arrangement of villages, economic life, fishing, navigation, trade, work and industry, implements, manufactures, politics, war, weapons, family and social life, religion, play, music and dancing, art, etc., culture-history. The basal culture of this part of Melanesia, according to Graebner, is a comparatively pure totemism, deeply influenced at first by the proto-Polynesian culture, carrying with it, however, elements of the mask and bow culture of Melanesia. More recently are to be noted relations with Micronesia (particularly the Carolines) at the period of the first formation of a specific Micronesian culture. Also long-continued, but much weaker, influences (still effective) from the Polynesian groups proper. Santa Cruz also has been the point of departure for, or has been crossed by, a culture-movement directed westward and reaching with its last outliers perhaps as far as the southern coast of New Guinea.

In his article (pp. 185-222, 22 figs.) on "The History of the Making of Iron, particularly the Bellows," W. Foy argues in favor of the unitary origin of

iron-smelting and the extension of the art from one region of the globe. He also is of opinion that the iron-technic presumes that of other metals as already existing. Of the two independently originating bellows derived from the blowing tube the leather bellows is the older. The earlier origins of this form of bellows may be connected with the smelting of copper and bronze, and therefore he considers the theory of Luschan and others, that the manufacture of iron originated among the African Negroes, untenable. He rejects likewise Ridgeway's Central-European theory. The higher metal-technic, with the higher form of bellows, typical for the iron-technic, had their point of departure, Foy thinks, in Asia Minor, or in the neighboring parts of the Asiatic interior.

The Miscellaneous section consists of brief articles by F. Graebner on "Hammocks from New Guinea" (pp. 223-224, 1 fig.), "Wood-carving from German New Guinea" (pp. 224-225, 1 fig.), "An Animal-shaped Vessel with Cover, from the S. E. Solomon Islands" (pp. 225-226, 1 fig.); and by W. Foy on "Australian Spindles" (pp. 226, 230, 1 fig.), "South African Witch-Dolls" (pp. 231-233, 3 figs.); also articles of a comparative nature by F. Graebner on "Back Ornaments in the South Sea" (pp. 235-239, 3 figs.), and by W. Foy on "Australian Flat Clubs and their Cognates" (pp. 245-262, 18 figs.), "An Ancient Method of Adornment" (pp. 262-266).—treatment of ornamentation of objects by means of seeds, shells, etc., imbedded in resin, etc. The article on the "Nose-Flute" is well documented and considers also certain kinds of mouth-flutes. Oceania and Southern Asia form the characteristic area of the "nose-flute", but it is known also from Africa and even, perhaps, America. F. Graebner has also a note on "A Bow-Shield from New Guinea" (pp. 233-234, 1 fig.). A good index (pp. 266-282, 3 cols. to the page) completes the volume.

ALEXANDER F. CHAMBERLAIN.

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KER, ANNIE. *Papuan Fairy Tales.* London: Macmillan & Co., Ltd. 12°, xi, 149 pp., 13 pl.

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The author is a United States Indian inspector, and was formerly agent to the Sioux at Devils Lake and Standing Rock agencies, North Dakota. His wide experience with Indians and his long official association with them have made him an authority on the recent history of many of the tribes.

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ANTHROPOLOGIC MISCELLANEA

William Graham Sumner.—It was said of Charles Darwin that he was the last great "naturalist," that is, the last man who knew the whole field—who was a geologist, biologist, botanist, and all the rest, and capable of the transcendent scientific effort of a great synthesis comprehensive within what was once called "natural history." Similarly of James Dwight Dana, it is said that he was the last great geologist; now we have structural geologists, paleontologists, physiographers, as special kinds of geologists, or, at least, as intellectual descendants of those who



William Graham Sumner.

bore the once comprehensive term. In like manner it could be asserted that William Graham Sumner was the last great anthropologist—taking the term in his own broad sense, for he defined anthropology as the science that makes a study of the human group, of its relation to its habitat, and of membership in it. We now have somatic anthropologists, prehistoric archaeologists, economists, political scientists, sociologists, and so on; but Sumner knew a great deal about all the social sciences, and was an expert on several. I do not mean that Sumner was equally at home in all these lines—even Darwin's acquirements

were uneven,—but that he had this comprehensive background to his work. I do not mean that he spread out beyond the field of the social sciences as some of our venerable scientific fathers have done, but that he covered more completely and thoroughly than anyone is likely soon again to do the several divisions of this field. And when one realizes the amount of teaching and administrative work Professor Sumner did, as compared for example with some of the non-teaching scientists, the marvel of his comprehensiveness increases.

Professor Sumner was one of the first two or three prominent economists in this country, and he was the first to teach sociology. The major interest of his career lay apart from physical and prehistoric anthropology toward the disciplines based upon ethnography and history. He never did any "field-work" so far as I know. Nor did he, on the other hand, display any of those leanings toward metaphysics and the intuitional which have vitiated so much work in the social sciences. He repelled all this with the greatest scorn and had a strong leaning toward the natural sciences, often regretting his defective training in these lines. But it would not be fair to say that he was a closet-philosopher, for he possessed a wide and accurate knowledge of one part, at least, of the field — the economic and political organization of America and Europe.

The comment used to be heard that Sumner had made a great mistake in giving up political economy in the nineties, and some could not understand how he could surrender a specialty in which he stood so high unless his working days were over. But those who heard his courses in the Science of Society, and, at length, those who read the "Folkways," had no doubt that he had moved from the narrower into the wider field; and those who came to know him better learned that the general science of society, rather than any one of its branches, had been his interest from the beginning. He left behind him a great mass of materials and manuscript, as the reader of the preface to "Folkways" could infer, which witnessed to his absorption in his earliest and latest scientific interest.

The dominant note of Sumner's thought was hard common-sense; this was coupled with a thoroughgoing intellectual honesty and with the courage of conviction. Such qualities have not failed of their effect, even though he did not live to aid sociology in attaining to the vertebrate stage. For generations of Yale men carry about with them, in their personal "mores," the healthy intellectual ideals inculcated with unflinching insistence by this great teacher and man. Sumner not only studied the science of the *anthropos*, but he knew men, and he made them.

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On Phonetic and Lexic Resemblances between Kiowan and Tanoan.

—Certain phonetic and lexic affinities between Kiowan, Tanoan, and also Shoshonean, have been pointed out by Buschmann, Gatschet, and others. In examining the Kiowa vocabulary obtained by Mr James Mooney and published in the *17th Annual Report of the Bureau of American Ethnology*, part 1, pages 391-440, the writer notes to his surprise how strong these Kiowan-Tanoan similarities are. Should it be finally

proved that these two "stocks" are really related, either genetically or by mixing, the conclusions would be most interesting, since history traces the migrations of the Kiowa from their former homeland at the headwaters of the Missouri river, while the Tanoans are in every respect a typical Pueblo people.

The Kiowa sounds as recorded by Mooney are: a, ā, ă, ȃ, e, i, I, o, u, ū, (ū), ai, uā, iā, ia, āo, ñ (sign indicating nasalization of the preceding vowel), b, d, g, h, k, k', k', kw, l, m, n, p, p', s, t, t', w, y, z. The Tanoan sounds, dialect of Taos pueblo, are: a, aⁿ ("indicating nasalization of the preceding vowel"), ā, āⁿ, i, iⁿ, ā, āⁿ, u, uⁿ, ō, āⁿi, āⁿū, āⁿi, āⁿi, uⁿi, āi, āū, iāⁿ, iā, iū, āi, ūā, ūi, ōā, ōi, b, d, g, h, j (= y), k, k', k', kw, l, l, m, n, p, p', p', s, t, t', t', ts, ts', w, x, xw. Besides k, p, t, Mooney mentions k' ("explosive"), p' ("aspirated"), and t' ("aspirate"). Tanoan possesses in addition to k, p, t also k, p, t exploded with much breath (written k', p', t') and k, p, t grunted, i. e., accompanied by simultaneous closure of the glottis (written k', t', p').

In the brief vocabulary the following striking lexic resemblances were noted. The Kiowa words and their meaning as recorded by Mooney stand first together with a reference to the page of the Report cited above on which they occur; Tanoan forms taken from the Tiwa, Tewa, or Jemez (Towa) languages follow.

a, a game, 433: Tewa e, a game.

ā-, I, personal pronominal prefix on many verb forms: Tewa ā-, Tiwa ā-, I.

āā', I come or approach, 391: Tewa āⁿāⁿ, Tiwa āⁿ, Jemez iⁿ, to come.

āⁿdal, hair, ādal- in composition sometimes head, 391: Tewa p'o, Tiwa p'i-, head. For the loss of p'- compare Kiowa o'nto, five (see below).

ai'deñ, leaves, foliage, 393: Tiwa ō, Tiwa (Piro dialect, Bartlett's vocabulary) a-o-, leaf, Jemez ā, leaf.

an, a track, 394: Tewa aⁿ, Tiwa ieⁿ-, a track.

āⁿgya, he sits, 394: Tewa āⁿ, to sit.

anso', anso'i, a foot, 394: Tewa aⁿ, Tiwa ieⁿ-, Jemez o'ts'ac, a foot.

a'tāntai', salt, 396: Tewa a, salt.

be-, imperative pronominal prefix (?) in bemá'!, lie down!, 408: Tewa bi-, imperative pronominal prefix.

bon, crook, in pabo'n, fur crook, crooked lance wrapped in fur, 415: Tewa mbuⁿ, crook.

bot, stomach, belly, 397: Tewa pu, stomach, belly, buttocks.

dom, dām, earth, under in composition, 400: Tewa naⁿ, Tiwa naⁿm-, earth, Jemez dāā', earth.

eho'tal, kill, 434 : Tewa he, Tiwa hu, Jemez 'ô, to kill.

gi, meat, flesh, 402 : Jemez giⁿⁱ, meat, flesh.

-gya, locative suffix equivalent to at or in, 405 : Tewa -ge, Jemez -gi, -ge'ei, locative suffix.

hi'adâl, a creeklike depression or shallow valley without water, 407 : Tewa hê, small dry valley, arroyito.

hodal, sickness, 407 : Tewa he, sickness, Jemez 'o, sickness.

i, child, offspring, diminutive suffix, 407 : Tewa ê, child, offspring, diminutive suffix.

ka, robe of skin, buffalo robe, 408; ka'-i, hide, 434; kagya, skin, 437; ka'ni, shell or rind, 400 : Tewa k'owa, Tiwa k'âi, skin, hide, bark.

k'a, he is lying down, 394 : Tewa k'o, Tiwa k'a, to be lying down.

k'a, knife, 408 ; k'a'-ikon se'se stone arrowhead, 421 : Tewa k'o, stone, stone knife, stone axe, k'otsê, stone arrowhead.

k'an, hard, 409 : Tewa k'e, hard.

kâ'ngya, name (noun), 435 : Tewa k'â^{wâ}, Tiwa xâ⁻, Jemez hi^a, name.

-k'i, -k'ia', man; -k'i'âgo, gyâko, people, 410 : Tewa k'ema, Jemez k'yabâ, friend, man, friends, people.

k'odal, neck, 435 : Tewa k'e, Tiwa k'ôâ-, neck.

koñ, black, dark, night; koñ'kya, black, 412 : Tewa k'u^a, dark, night.

mahi'fi, owl, 436 : Tewa mahu^a, owl.

mân, root of finger, hand, arm ; mândâ', arm, 414 : Tewa mâ^a, Tiwa maⁿ-, Jemez ma^{te}, hand, arm.

mâ'ngo'm, index finger, "literally pointing finger" (although no such form as gom can be found elsewhere in the vocabulary), 414 : Tewa mâ^{k'u}, Tiwa ma^{xu}-, finger, meaning literally extremity of the arm.

-mâ'nte, walking, 439 : Tewa mât, Tiwa mât, Jemez mi^a, to go.

mâ'sâ', six, 414 : Tewa si, Tiwa ma^{li}, ma^{sli}, Jemez ml^{sty}i, six.

om, a drop of blood; on'kya, blood, 431 : Tewa u^a, Tiwa oⁿ-, Jemez, ô^a, blood.

o'nto, five, 433 : Tewa p'ano, Tiwa p'anyua, Tiwa (Isleta dialect) p'anto, Tiwa (Piro, Bartlett's vocabulary) an-tao, Jemez p'int^so, five.

p'a, moon, month, 415 : Tewa p'o, Tiwa p'a, Jemez p'ââ, moon, month.

p'a, river, creek, stream, 415 : Tewa p'o, Tiwa p'â, Jemez, p'â, river, creek, stream, lake, water.

pa, fur, down, 415 : Tewa p'o, Tiwa p'a, Jemez fwolâ, fur, down, hair.

pa'gī, downy, 415: Tewa p'ogii, downy. Compare Kiowa pa, fur, down (see above).

pā'go, pā'nyi', one, 416: Tewa wi . . . pi, not one, Tiwa wa . . . puⁿ, not one, Jemez p'uⁿ, one.

pai, sun, 416: Tewa pa-, sunshine; Jemez pe, pei, sun.

pai'gya, summer, 416: Tewa payoge, payogeri, Tiwa pi-, Jemez pec, peic, summer.

pa'ki, thigh, 416: Tewa po, Tiwa pa-, thigh.

pā'o, three, 416: Tewa pa'yo, Tiwa pa'yāu, three.

piā, fire, 418: Tewa p'a, Tiwa p'a-, Jemez fwayā, fire.

pi'āya, summit, top, 418: Tewa pi'ge, summit, top, pi'ye, up to, over to, down to, pi, to ascend.

po, trap, spider web, 418: Tewa p'o, hole, pitfall.

p'o, beaver, 418: Tewa oyo, Tiwa p'āyā-, beaver.

p'odal, plural p'ota, worm, reptile, insect, snake; used for both creeping and flying insects, including flies, and occasionally for snakes, but not for turtles, 418: Tewa p'ove, worm, reptile, insect in the larva and pupa state; full fledged insects are spoken of by specific names or are called p'unyu, flies.

polān'yi, rabbit, 418: Tewa pu, po, rabbit.

sa'dal, masticated food in the stomach, intestine, belly, 419, sa'gya, dung, 433: Tewa sa, dung, contents of the bowels.

sā'he, blue, green, 419: Tewa tsa*wāii, sa*wāii, blue, green.

sa'top, pipe, 420: Tewa sa, tobacco, sak'o, pipe, meaning literally tobacco stone.

sen, nostril, 420: Tewa so, mouth, nostril.

senpo, moustache, beard, 420: Tewa sozo, sop'o, moustache, beard, meaning literally mouth hair. Compare Kiowa pa, fur, down (see above).

se'se, arrowhead, 421: Tewa tsi, sē, arrowhead, obsidian flake. Compare Kiowa k'a-ikon sese, stone arrowhead, and Kiowa sā'he, blue, green (see above).

se'tā, the small intestine of the buffalo cow, cow intestines, 421: Tewa si, intestines, belly.

señ, prickly; se'ñi, cactus, 420: Tewa soⁿ, prickly, cactus.

t'a, antelope, 422: Tewa t'o, Tiwa t'a-, antelope.

t'a, ear, 422: Tiwa t'alō-, ear, t'a to listen, t'a, ear, in noun + verb compounds.

t'aiñ, white, 423: Tewa ts'āii, white.

tañ'gia, deer, 424: Tewa ta, Tiwa tō-, elk.

t'o, cold, 426: Tewa t'i, cold.

t'ogya, coat, shirt, 426: Tewa t'o, shirt, clothes, covering, especially Indian covering for the upper part of the body.

tseñhi, dog, 428: Tewa tse, se, Tiwa tsul-, dog.

-tse'yu, a suffix denoting a pet or domesticated animal or the young of an animal, 428: Tewa tsäii, tsäyo, säii, säyo, little, pet, young of an animal, child, sweetheart.

yi'ä, two, 416: Tiwa yiäbata, second, other.

yi'ägyä, four, 416: Tewa yo'nu, four. Compare Kiowa yi'ä, two (see above).

Several other words and features resembling Tanoan, not noted above, were observed in the Kiowa vocabulary.

JOHN P. HARRINGTON.

The Proper Identification of Indian Village Sites in North Dakota: A Reply to Dr Dixon. — In a recent number of the *American Anthropologist* (July-Sept., 1909), Dr Dixon of Harvard University has attempted to overthrow the conclusions reached in a discussion of typical Indian villages of the Missouri valley published in Volume II. of the Collections of the State Historical Society of North Dakota. It is unfortunate that it has seemed necessary to reopen the unpleasant subject of the Peabody Museum exploration of one of our old Indian village sites fifteen miles from our state capital. But while the general public is not especially interested in this matter, Dr Dixon's criticisms have raised several questions of no little scientific interest.

One of the principal defects in the Peabody Museum study of the Mandan lies in the fact that its authors do not seem to have suspected the existence of any but archeological and documentary evidence on the early life of the Mandan. To quote from their opening remarks "On the ethnological side little further research is possible owing to the practical extinction of the tribe." But this sweeping generalization expresses merely the current gossip about the Mandan. On the Ft Berthold reservation, at that time, there were some fifty Mandan families, still represented by descendants of that tribe, and there were, besides, many times that number of pure Hidatsa stock, whose long and intimate association with the Mandans made them well worth careful study. The State Historical Society of North Dakota has been carrying on for five years a careful study of the ancient village sites of the Missouri valley, using the testimony of surviving Mandan and Hidatsa in conjunction with such evidence as could be drawn from careful surface surveys of a large number of sites. Specimens in great variety and number were

obtained from most of the sites, both from the surface and by excavation. In addition to this, extensive records have been made of the tribal history and mythology, along with such old songs, ceremonies, and tribal customs as are still to be found among the older members of the two tribes. Biographies of three of the oldest Indians have already appeared in our publications; they are a tribal record beginning considerably earlier than 1837 and are, therefore, practically contemporaneous with the Catlin-Maximilian documentary evidence. During the past summer the Society has examined some twenty sites with a representative from the Mandan and from the Hidatsa tribe. We retraced the old route of the tribal migration from near the Cannon Ball river to the Fort Berthold reservation. The record of the identification of the sites along this historic trail, with the accompanying surveys of each site, has placed in our hands a most valuable first-hand knowledge of the whole subject. We have for the present confined our efforts to the superficial survey of the whole valley so as to bring into a related whole the facts as to the sixty or more sites found there. Along with these labors we are seeking to secure permanently, as state reserves, such of the sites as seem most typical and which seem to contain the greatest wealth of archeological material. With our small appropriation and the limited force at our disposal, our progress has been far from what we would like to have it. As soon as we have accomplished these tasks, we shall set about the careful and scientific excavation of certain selected sites with a view of showing the interior structure of the dwellings erected on these sites, as far as the remains of the upright timbers can indicate it. The second result of the excavation will be to secure some record of the changing tribal life during the whole history of the village and the variations in the arts practiced here. Thus far not a single piece of archeological evidence has been offered on these rather fundamental subjects.

The collaborators of the Peabody Museum report excavated a considerable area in an unidentified village site, classified and described the large number of specimens found there, prepared a considerable number of fine plates illustrating their finds, quoted voluminously from all the authors available, but nowhere is there a particle of evidence adduced which can serve to identify the site they so laboriously studied. In fact it is quite certain from the arrangement and character of their material that not one of the authors or collaborators ever dreamed that this most essential point could ever be called in question.

But to take up the evidence introduced, as an afterthought, by Dr Dixon in defence of the Peabody Museum report. It is held by the

author of the article in the Collections of the State Historical Society of North Dakota that the three tribes, Mandan, Hidatsa, and Arikara, have each a distinct type of village arrangement which can be discovered by a careful surface survey. This conclusion is based on the unanimous testimony of the Mandan, Hidatsa, and Arikara Indians living on the Ft. Berthold reservation, and from a study of some twenty sites in the Missouri valley. From his knowledge of two sites in the state Dr Dixon feels competent to pass on the evidence offered from these above sources. He further insists that the Peabody Museum study is correct in identifying its site as Mandan because there are two places shown on the survey of the site where the holy place or "square" might be located. To quote from the study itself (page 151), "The greatest difficulty was in identifying the large village square or ceremonial place. Inside the first ditch, in the very center of the village is an area of about the right size but it is broken by three rings which appear to be house rings, one larger than any of the others. Between the first ditch and the second, however, there is a large open space of the proper dimensions and unmarred by any rings or mounds. It answers the description except that it is not located in the center of the village." As everyone who is at all familiar with the arrangement of the tepees in the Mandan village knows, there is in each village an open space or holy place in which stands the *ochta* and the *holy canoe*. The holy tepee faces directly upon the center of this space while around the same space are grouped the tepees of the most important men of the village, none of the doorways of their tepees, however, opening directly upon the center of the space. No other tribe possesses such an arrangement of tepees, the Hidatsa having no holy central place and the Arikara having a holy tepee in the middle of the space instead of at the side like the Mandan. In trying, therefore, to locate this essential feature of every Mandan village, the authors of this report are driven reluctantly to admit that it was not to be found, though they add, to be sure, that there were two places where this central space might possibly have been located, one which was not *central* and the other which was not a *space* at all. In further proof of the Mandan origin of this site, Dr Dixon asserts that the pottery found by the excavators was not Hidatsa but Mandan. He admits he has never seen any Hidatsa pottery but judges this pottery found by his party must be of Mandan origin because it is like that found on Mandan sites. He seems quite unaware of the fact that there has never been any scientific identification of any of the so-called Mandan pottery in the various museums where there are collections to be found. And he quite overlooks the fact that the Mandan and Hidatsa Indians have by long

and close tribal connection so blended their arts that no clear line of distinction has yet been drawn between them. The specimens of pottery in our own museum from over forty sites can at present be distinguished only by the labels locating the particular sites where they have been found. A study of one site alone out of the whole group would, of course, furnish no evidence of this rather elementary fact in the problem we are discussing.

Again, Dr Dixon finds proof of the Mandan origin of the village site in question from the absence of dog bones in the debris heaps excavated. Since Hidatsa villages were noted for their swarms of dogs, the absence of their remains would indicate a Mandan village, where fewer dogs are noted by travelers. This rather slender evidence is still further weakened by the fact that the larger part of the numerous debris piles on the site were not examined at all, so that the percentage of remains is too small to base conclusions of this kind upon. Furthermore, this argument entirely overlooks the well-known fact that both the Mandans and the Hidatsa have winter villages as well as summer villages. Even in Verendrye's *Journal* this fact is mentioned. Since the excavation under discussion was conducted in a summer village and no specimens were obtained from the debris of a winter residence, all conclusions as to food are thereby vitiated. If dogs were eaten at all, it would be only in times of scarcity, which would occur in the winter when game might fail and the severe weather would make hunting precarious. Winter villages of either the Mandan or the Hidatsa are not easy to locate, and the writer has located with certainty not more than three. But of one thing we may be sure, no matter how abundant dogs might be, they would not be eaten (except on ceremonial occasions) when such game as buffalo and antelope was plenty and an abundance of corn and other vegetable products was to be had, — which was the normal condition during the occupation of their summer residences. Still further in his review, Dr Dixon insists that the plate of a typical Hidatsa village site in the North Dakota Collections shows an open area like the holy place of the Mandans.¹ One feature of the plate, however, he entirely overlooks. In the Mandan village every doorway in the entire circle of tepees points inward, while in the Hidatsa village in the area designated four of the tepees open inward and five outward. It is a matter of common information among all the Hidatsa that their tribe has no such central holy space or holy tepee as the Mandan.

The author in Vol. II. of the Collections of the State Historical Society of North Dakota has also given a good deal of evidence to show

¹ *Collections of the State Historical Society of North Dakota*, II., pt. I, p. 300.

that Verendrye's *Mantannes*, met by him in 1738 somewhere in the Missouri valley were really the present Hidatsa migrating southward.¹ The contention in brief is this, that the name *Mantannes* is a Cree name for a tribe living southwest of them in earth lodges. The historic Mandans never were north of the Knife river, while the Hidatsa were known to be as far north as Antler's creek, Mouse river, in Canada; that in the peculiar form of fortifications and in the absence of any central holy space or holy tepee Verendrye's two *Mantanne* villages could not be Mandan; and finally since Verendrye mentions two other tribes, the nearest only a day's journey south of the *Mantannes*, that these were probably the true Mandan and the Arikara, and were called by him "*panana* (*panaux*)" and "*pananis*" respectively.

In attacking these conclusions Dr Dixon again shows his lack of any very certain information of the Hidatsa. He does not seem to know that the Hidatsa at one time dwelt east of the Missouri river and far northeast of the old Mandan sites at Heart river. Matthews, the acknowledged authority on the Hidatsa, mentions this repeatedly, pp. 34-39.² Still further evidence is found in Vol. I. of our Historical Society publications (p. 340). The Historical Society is in possession of an Hidatsa account of their wanderings from the vicinity of Devils Lake to Assiniboine Island (Sibley Island), some distance below the mouth of Heart River, where they crossed the river at the invitation of the Mandan and ever after were intimately associated with them. Earlier than this they admit that some portions of their tribe were at war with the Mandan. All this evidence is in exact harmony with Verendrye's narrative. He came in contact with a tribe living in earth lodges in 1738, somewhere southwest of the north point of the Turtle Mountains in Canada. Since the Hidatsa were known in this region in earliest times, the *Mantannes* can only be identified as Hidatsa and not as Mandan proper. These people then lived at the mouth of the Little Knife and out in the prairie at a distance from the Missouri river. They told Verendrye of two other tribes hostile to them and building houses like themselves, the "*panana* (or *panaux*)" and the "*pananis*," the nearest at a day's journey from the southernmost of their villages, which was also the largest, undoubtedly the one on greater Knife river. A day's journey southward from the Knife is the Heart river, the early home of the true Mandan, while still farther south were the Arikara. This is in harmony with all the evidence and accounts for all the facts so far observed. In

¹ *Ib.*, II., pt. 1, p. 502.

² Matthews, *Ethnography and Philology of the Hidatsa Indians*, Washington, 1877.

still further confirmation of this conclusion, it may be stated the author has recently discovered the site of the *Mantanne* village visited by Verendrye's son in 1738 and reported by him as being on a westward flowing river. Verendrye at the end of his journal refers again to this river as the *Mantanne* river and plans to revisit and explore it westward to its mouth. He did not know it was a part of the Missouri river at the south and neither did his sons four years later, when they crossed it for further exploration. Upon an old map of 1772 Verendrye's river is given as the "Mantons R. which is supposed to be the same as the Missouri."¹ It shows but a segment of the river and still further discredits the old theory that he came to the Missouri river at the mouth of the Heart river. This lower portion of the Missouri river is not indicated at all and no large tributaries appear as coming in from the west. A more careful reading and a more accurate translation of Verendrye's Journal will tend to correct the older and erroneous view as to where he went and what places he visited. But it is impossible to judge of the narrative from internal evidence alone, a thorough knowledge of the topography is absolutely essential as well as a full acquaintance with all the Indian village sites west of the Turtle Mountain area.

The same remarks apply to the journal of the two sons of Verendrye in the exploration (1742) of the region west of the great river discovered by their father in 1738. Their observations confirm in a remarkable manner the proofs above given of Verendrye's real line of travel in 1738.

O. G. LIBBEY.

Archeological Observations in South Dakota. — While the writer was traveling through a part of South Dakota he discovered mounds of earth which had apparently been formed artificially. Upon more careful investigation, it was found that there were four of them in a row extending north and south. They were built upon the highest portion of land north of and near to a small lake in section 23, Lynn Township, Day County, South Dakota. The largest one was the farthest north, the others in line and in order of size directly south about equally distant from each other, their bases nearly joining. They were round, and the larger one from one edge of the base over the top to the opposite edge was 18 paces. The smallest one measured in the same manner was about 8 paces. The second one from the north was somewhat smaller than the large one, and the third one from the north still smaller. The largest

¹A General Map of America divided into North and South and West Indies, with the recent discoveries, London, 1772.

one was about 6 or 7 ft. above the common level. The farmer has plowed over them for several years and they have become worn down quite materially. The examination was only of the surface and that very limitedly done. However, enough evidences were easily discovered to satisfy the writer that these mounds were artificial and probably of Sioux origin.

Upon the surfaces of the mound and about them was to be found a great amount of buffalo bones. Several portions of human skulls and one femur were also found. One bead made from the shell of the Gastropod and many spawls of flint peculiar to the west rather than to the east were found. One piece of pottery was found on the surface of the smallest mound. All of these were found upon the surface in the wheat stubble.

After having become satisfied as to the nature of these mounds, a little time was spent in looking over the surrounding country. Upon another point of the high bank about 20 rods west of the mounds a somewhat extensive pile of rocks which had the appearance of having been placed there by man was discovered. This pile was about one foot above the surface, two feet wide, and eight or nine feet long, composed of water-worn stones which had probably been taken from the lake shore near by. Some of these stones would weigh quite fifty pounds, most of them probably not more than four to ten pounds each. Upon removing some of them at the north end there was discovered a continuous pile down into ground below the surface to a depth of at least six inches. This might lead one to believe the pile of stones to be artificial. As the writer had no means of investigating further, some inquiry was made at a near by farm house where it was learned that several stone implements and a great number of bones had been found about the mounds and that no systematic investigation had been made by anyone. From another farmer it was learned that several steel knives like those of a butcher had been plowed up there. Two of these were examined by the writer at the home of D. I. Williams, who had discovered them while plowing. Both presented one evidence of Indian ownership, i. e., the grinding of one side of the blade only. Upon one of them the word "Graves" stamped by the manufacturer, could still be easily deciphered. These knives were found where the farmers assumed that Indians had lived and they based their assumption upon the fact that stone implements, bones, pottery, and other evidences of continued residence are manifest.

Though no one knows of any Sioux having lived where these mounds are located, there is no doubt that they were, though perhaps long in building, erected by the same people who are known by the

farmers as Sioux Indians, and it is probable that Indians of recent times aided in their construction and in the erection of stone piles over the graves of their dead. It was learned that many stone piles are still in evidence in that section of the country. Many of these have been moved or torn down by the farmer who has invariably found human remains at a depth of 18 inches, or sometimes less, below the surface. All the farmers in this vicinity recognize these stone piles as Indian graves and always so speak of them.

The mounds as described, in structure so far as examined, in location, in the fact that they contain human bones and other bones, flint spawls upon and about them, potsherds and beads, suggest a Siouan origin. Everything so far discovered coincided with the mounds of Minnesota and Wisconsin, the origin of which has been attributed to the Sioux by Hon. J. V. Brower as well as Prof. N. H. Winchell.¹

Another farmer in this vicinity, Mr Jacob Mork, of Pierpont, South Dakota, has in his possession a silver ear pendant, and a silver bead which was shown to the writer and which Mr Mork said he had found in a grave of but shallow depth which had been filled with stones and heaped up to some height. Several of these graves were found by Mr Mork and



FIG. 10.

others upon his and other farms in that vicinity. In moving these stones, so that he would not be compelled to plow around them, he discovered, as his plow cut through the soil, a spot of very red earth about 14 inches across which attracted his attention, and upon investigation, he discovered a small metal object. He destroyed this while examining it and threw the fragments away. Upon further search with the aid of a pitch-fork, which was used in digging up and turning over the soil, he found another metal piece just like the one he had destroyed. This he kept, and it proved to be an ear pendant of silver, hand made and complete. The description of this is as follows. The ring for the lobe of the ear is about three eighths of an inch across and apparently made of silver wire. All parts are of silver. The pendant is attached to the earring proper by an intermediate hollow sphere of silver about one eighth of an inch in diameter. This pendant is of hammered silver, pounded flat and thin, then rolled into a funnel shape about one eighth of an inch across the wider or lower end and about one half of an inch long. The silver bead

¹ Prof. N. H. Winchell, *Pop. Science Monthly*, Vol. 19, May to October, 1881, and September, 1908; J. V. Brower in *Kathio*, page 128.

had been formed by a little cutting and hammering, and then rolling the ends up together. Upon close examination with the naked eye the word "REAL" was discovered upon the outer surface as indicated in the cut. This bead was very interesting and an examination was made by placing it under a pocket magnifying glass. True enough, the writer was holding in his hand the remains of a Spanish Real. How came the Indian in possession of this Spanish coin? Is this an evidence of trade? If so, who traded this with the Indians? Did Coronado distribute some Spanish coins among the Indians or did his priest, Padilla, who remained after the departure of Coronado to convert the Indians to Christianity and who was soon murdered by them, leave some of these coins among his effects?

This grave was located upon the northwest quarter of section 7, township 123, range 57 west, Day County, South Dakota, on Mr Jacob Mork's farm. Three other graves, as yet undisturbed, are located not far from this. These observations were made in the presence of Prof. J. H. Hetley, of Webster, South Dakota, and others in that vicinity, during the month of October, 1909.

E. E. WOODWORTH.

Sinew Arrowheads.—The idea of arrowpoints of sinew seems so strange that reliable data on their manufacture and use may be a matter of some interest. In 1908 while engaged in field work under the auspices of the American Museum of Natural History I first heard of this arrow point when questioning Wolf Chief, a Hidasta full-blood, regarding the manufacture of points of buffalo horn. I quote his own words:

"Also, we hear that in old times arrow heads were made of the hard sinew that holds up the buffalo's head. The hard sinew was cut into pieces the shape of an arrow head; and these were held near the fire and hardened and sharpened. Such arrow heads were very good to hunt buffaloes with, because if the arrow point struck a rib it would go around the rib, without breaking off; but a flint arrow head would break if it struck a buffalo's rib."

Fearing the interpreter, or myself, had made a mistake, I hurried over to the cabin of Buffalo Bird Woman, Wolf Chief's sister, an old woman about seventy years of age. She corroborated the account in these words:

"I have also heard that arrow points were sometimes made of the thick, tough sinew that lies along the top of a buffalo's neck and holds his head up. It runs back into the hump, and is yellow when dry. Such arrow points, when dry, were hard. We called the big sinew *it-sū-ta*. I never saw any of these arrow points and do not know of what shape they were."



FIG. 11. — Sinew arrowpoint.

Later, I heard that two of these points were in possession of Pack's Wolf, one of which I secured. Neither Pack's Wolf nor my other two informants had ever seen one of these points made, and they were ignorant of the process.

Reasoning from analogous customs in the working of buffalo horn, I suspect that the sinew was cut into roughly shaped points and dried; that the points were then dipped in marrow fat, fried slowly over a fire, and worked into final shape while yet hot. Buffalo horn points were so treated.

I secured a piece of *itsuta* sinew of an ox and found it easily capable of taking a piercing edge. When dried its color was a translucent yellow like yellow horn. In color and hardness it was like the specimen, a sketch of which is appended by courtesy of F. N. Wilson (fig. 11).

GILBERT L. WILSON.

A Possible Father for Sequoya. — In the long search for a possible father for Sequoya, George Geist (Guyst, Gist, Guest, Guess) I have seen nothing quite as suggestive as an item, in the New Jersey Colonial Archives. In Volume XX, First Series, page 212, among the old newspaper extracts, appears the following :

Forty Shillings Reward

Run away on the 15th day of May (1758) from Adam Leberger, of Pilesgrove in Salem County, in the Western Division of the Province of New Jersey; a German Servant Man, named George Leonard Geist, of a middle Size, about twenty Years of Age, full faced, and has yellow Hair: Had on when he went away, a Homespun light brown Jacket, lined with striped Lincey, a Pair of pretty good Buckskin Breeches, blackish Stockings, a Felt Hat, and pretty good Shoes. Whoever apprehends the said Servant Man, and secures him in any Gaol, so that his master may have him again shall have Forty Shilling Reward, and reasonable Charges, paid by

Adam Leberger

In the foregoing, we have the right name, date, nationality, and character of the man who is said to have married the Cherokee half breed girl in the Alleghany Mountains, and became the father of the quarter blood Cherokee who gained world-wide fame as the formulator of the Cherokee syllabary.

C. A. PETERSON.

[Mooney (Cherokee Myths, 19th Annual Report of the Bureau of American Ethnology, pages 108-109) has the following to say regarding the birth and parentage of Sequoya :

The inventor (of the Cherokee syllabary), aptly called the Cadmus of his race, was a mixed-blood known among his own people as *Sikwá'yí* (Sequoya) and among the whites as George Gist, or less correctly Guest or Guess. As is usually the case in Indian biography much uncertainty exists in regard to his parentage and early life. Authorities generally agree that his father was a white man, who drifted into the Cherokee Nation some years before the Revolution and formed a temporary alliance with a Cherokee girl of mixed blood, who thus became the mother of the future teacher. A writer in the *Cherokee Phoenix*, in 1828, says that only his paternal grandfather was a white man. McKenney and Hall say that his father was a white man named Gist. Phillips asserts that his father was George Gist, an unlicensed German trader from Georgia, who came into the Cherokee Nation in 1768. By a Kentucky family it is claimed that Sequoya's father was Nathaniel Gist, son of the scout who accompanied Washington on his memorable excursion to the Ohio. As the story goes, Nathaniel Gist was captured by the Cherokee at Braddock's defeat (1755) and remained a prisoner with them for six years, during which time he became the father of Sequoya. On his return to civilization he married a white woman in Virginia, by whom he had other children, and afterward removed to Kentucky, where Sequoya, then a Baptist preacher, frequently visited him and was always recognized by the family as his son.

Aside from the fact that the Cherokee acted as allies of the English during the war in which Braddock's defeat occurred, and that Sequoya, so far from being a preacher, was not even a Christian, the story contains other elements of improbability and appears to be one of those genealogical myths built upon a chance similarity of name. On the other hand, it is certain that Sequoya was born before the date that Phillips allows. On his mother's side he was of good family in the tribe, his uncle being a chief in Echota. According to personal information of James Wafford, who knew him well, being his second cousin, Sequoya was probably born about the year 1760, and lived as a boy with his mother at Tuskegee town in Tennessee, just outside of old Fort Loudon. It is quite possible that his white father may have been a soldier of the garrison, one of those lovers for whom the Cherokee women risked their lives during the siege. What became of the father is not known, but the mother lived alone with her son.

The identity of Sequoya's father with the man referred to in the newspaper extract cited by Dr Peterson would seem from this to be extremely probable.]

Inaccurate Anthropologic Data regarding India. — Anthropologists and sociologists are very often required to use the comparative method when they try to trace the origin of institutions or work on similar problems, but when they use this method it is of the utmost importance that their facts be accurate. No precaution can be too great in this particular if truth be at all the writer's aim. In a number of books on sociology and anthropology one sees references to the customs and manners of the Hindus, but I find on examination that, in a surprisingly large number of works the information is inaccurate, though the writers who err are very often considered authorities on the subjects of which they treat. It would not be surprising if similar mistakes had taken place in referring to the cus-

roms of China and Japan. Expert opinion should be consulted when possible regarding the use of material relating to a particular country, but for Indian literature I give here a few rules to guide those who may not be able to avail themselves of expert assistance.

I. Information published in governmental documents like the Imperial and provincial Gazetteers, ethnographic surveys, and Census Reports, forms the most important and most accurate data for anthropological purposes.

II. The writings of some prominent men of the Indian Civil Service come next in value.

III. Writings of casual tourists are almost useless, and those of Christian missionaries should be viewed with suspicion.

IV. In using the material furnished by the Sanskrit law-books and religious works expert assistance is necessary. Even most renowned European and American Sanskrit scholars make grave mistakes in interpreting the data, and an anthropologist, unless he is a Sanskrit scholar of the highest order, should not think of using it.

The number of students from India in this country is increasing and if a writer subjects his information to their criticism he will avoid some grave errors. Nevertheless the assistance of an Indian student would not be valuable in interpreting the material mentioned in IV. unless the Indian himself is an able Sanskrit scholar.

SHRIDHAR V. KETKAR.

The Bukidnon of Mindanao.—The following interesting information is contained in a letter recently received by the editor from Dr F. C. Cole, now in the Philippine Islands in the interest of the Field Museum of Natural History:

“We are working with the Bukidnon, a non-Christian tribe supposed to cover most of north central Mindanao. Two years ago this territory was organized into a sub-province and put in charge of an energetic American governor. He started in the center of the country, and, when we reached here, we found his work there so efficient and thorough that we had to come out here to a region where he has not as yet begun his operations. Probably no people emphasize better than these the necessity of pushing the work in ethnology now. Within range of the governor they have built roads and bridges and have model towns surrounding plazas where the grass is cut with a lawn-mower. The old dress has almost entirely vanished and the true Bukidnon is all under the surface.

"Out here the situation is better — from our standpoint. New ideas are creeping in, but it is still possible to study the old. The men wear trousers and jackets elaborately embroidered, and gorgeous cloths also embroidered surround their heads. The women wear gay patchwork jackets and skirts, and striking hair ornaments. Earrings and ear plugs are common, while around the neck, arms, ankles, and toes of every woman are bells and rings. Her heavy coin necklace jingles and clatters as she moves, so that it is truly a case of 'music wherever she goes.'

"Of the people themselves I can tell little as yet, for we have had only seven weeks with them and our ideas may change ere we leave. They seem to be mixed bloods, with the Negrito element by no means small. They build small towns where they live on occasion, but most of their time is spent on their clearings out in the brush. There they raise hemp, a little rice, corn, tobacco, and coffee. The soil is fertile and requires little work or attention to secure a good crop; but the 'hookworm' or his brother has bitten the people severely, and they barely manage to find enough to live on. The woods are full of deer and pigs but they are seldom molested. Traps are sometimes used, and at rare intervals the men hunt, but they are far from being ardent sportsmen. They have a rather highly developed ceremonial life and a bewildering lot of spirits. You get one nicely placed and have his functions well worked out when suddenly he becomes five or seven or ten."

Nebraska State Historical Society. — The recent meeting of the Nebraska State Historical Society at Lincoln, Nebraska, Jan. 17-19, was a success both as to attendance and variety of papers presented. Three sessions were held daily, in coöperation with the Territorial Pioneers' and the Mississippi Valley Historical Associations. The historical papers, dealing chiefly with early days in Nebraska and Kansas, covered a wide range, among the speakers being Reverend M. A. Shine, Hon. Eugene F. Ware, former Commissioner of Pensions, and Colonel George W. Martin, Secretary of the Kansas Historical Society. The archeologic discussion was led by Mr Elmer E. Blackman, curator for the Society, followed by reports from the various local fields. Ethnology was represented by James Mooney of the Bureau of American Ethnology, who spoke upon "Camp Life with the Kiowa," "The Indian Ghost Dance," and "An Aboriginal State Map." The aborigines of Nebraska were represented by Mr Alfred Blackbird, of the Omaha tribe, great-grandson of the famous chief, speaking in English, and by Mr Upton Henderson of the same tribe, speaking in his native language. The usual courtesies were ex-

tended by the local bodies and everybody seemed to feel that the meeting was an occasion of public concern. The offices and valuable collections of the Society, at present accommodated in the State University, will soon be housed in a fine new building, already under way, for which the legislature has made a preliminary appropriation of \$25,000. Much of the success of the meeting and of the Society is due to the earnest work of its energetic secretary, Mr Clarence S. Paine.

JAMES MOONEY.

Annual Meeting of the American Anthropological Association. —

The next annual meeting of the American Anthropological Association will be held in Providence, R. I. — where the Archaeological Institute of America will also meet, — Dec. 28-31, 1910. Special attention is called to the amendments to the constitution which are to be acted upon at this meeting.

THE School of American Archaeology of the Archaeological Institute of America will continue during the year 1910 the work of exploration and excavation of ancient ruins with collateral ethnological and historical work in New Mexico, Utah, Arizona, and Central America. The season for work in the southwestern part of the United States is from June 1 to November 1; in Central America it is from December 1 to May 1. Properly qualified persons will be admitted to the field expeditions of the school or to undertake research work under its direction in Santa Fé or elsewhere, on satisfying the staff of their ability in original investigation. Those who desire to undertake such work should write the director, Dr Edgar L. Hewett, stating his or her wishes, giving such information as to qualification as would naturally be needed and stating when and for what length of time it is desired to take up the work.

THE Museum of the Department of Anthropology of the University of California has come into possession of a collection from an ancient burial site from the southwestern edge of the great San Joaquin valley, in Kern county, central California. The human remains indicate partial cremation followed by burial. Their state of preservation displays a hitherto undescribed mode of wrapping the limbs. A piece of Pueblo cloth is perhaps the first positive evidence of direct relations between the southwest and central California. Other objects show clearly the former existence in this region of customs and religious practices known in historic times only in southern California.

ON the evening of February 12th a reception was held at the University Museum in Philadelphia on the occasion of the opening of the

George G. Heye Collection of North American Ethnology, which had been installed during the preceding months. The collection occupies two large halls and forms a remarkably complete representation of the material culture of the tribes of the Great Plains and also of the Eastern and South-eastern tribes. The arrangement has been very carefully carried out, and the collection, both in the material which it contains and the manner of its exhibition, is one of the most notable and valuable of the great public collections of American ethnology.

MRS ZELIA NUTTALL has handed in her resignation as member of the Organizing Committee of the Seventeenth International Congress of Americanists, to be held in Mexico City next September, and has also renounced the title of Honorary Professor of Mexican Archeology at the National Museum, as a protest against the treatment she received from the Ministry of Public Instruction and the Inspector of Monuments in connection with her recent discovery and proposed exploration of the ruin of an ancient temple on the island of Sacrificios, off Vera Cruz. — *Science*.

A JOINT meeting of the American Ethnological Society and the Section of Anthropology and Psychology of the New York Academy of Sciences was held at the American Museum of Natural History, New York, on Monday, March 28. Papers were read by Mr Paul Radin on "Some Problems of Winnebago Ethnology" and by Mr A. A. Goldenweiser on "Australian Clan Exogamy." A meeting of the American Ethnological Society was held Wednesday, April 27, at which Dr Truman Michelson read a paper entitled "The Fundamentals of Algonkian Grammar."

DR AND MRS SELIGMANN have returned from their first exploratory ethnological survey of the Anglo-Egyptian Sudan, to which they were appointed by the Anglo-Egyptian government. They studied the hitherto uninvestigated Nubas of southern Kordofan, and the Shilluks, Dinkas, and Shir of the White Nile. A short time was spent between the White and Blue Niles, where a Neolithic site was discovered. Observations were made on the sociology and religion of various tribes, and some anthropometrical data were obtained, especially of the Nubas.

DR F. W. PUTNAM, Honorary Curator of the Peabody Museum of American Archeology and Ethnology, Harvard University; Dr R. B. Dixon, Assistant Professor of Anthropology, and Dr A. M. Tozzer, Instructor in Central American Archeology, have been appointed delegates of Harvard University at the foundation of the Mexican National University in September, 1910. Professor Dixon has also been appointed delegate at the International Congress of Americanists to be held at the City of Mexico at the same time.

DURING the month of February, Mr J. P. Harrington, of the School of American Archaeology, gave a course of lectures at the University of Colorado on the ethnology and archeology of the Southwest. Since completing the instruction at Boulder, Mr Harrington has been among the Southern Ute, at Ignacio, Colorado, where he is engaged in studying the Ute language. It is definitely planned that Mr Harrington make a study and record of the Pueblo and related languages extending through a number of years.

THE Department of Archeology of Phillip's Academy at Andover, Massachusetts, has received as a gift from Professor Williams of Andover, the Steinbrück collection of archeological material from the Mandan sites of North Dakota. There are in all about nine thousand specimens, and the collection is especially rich in unusual types of bone implements and in the smaller stone objects; among these are rare forms of scrapers, double and single.

By a letter to the Berliner Gesellschaft für Anthropologie, Ethnologie, und Urgeschichte dated September 17, 1909, Alfred Maass has established a gold medal to be awarded triennially by the Society to the person who, in the intervening period, has performed the most distinguished service in any of the subjects for which the Society stands. The first award was made November 20, 1909, to Albert Grünwedel, leader of the third Turfan expedition.

DR EDWARD SAPIR has just published a volume entitled *Takelma Texts* in the Anthropological series of the University of Pennsylvania Museum. At the present time, Dr Sapir, in addition to his work of teaching at the University, is engaged in a study of Ute linguistics and mythology with the assistance of Tony Tillohash, a Ute Indian from Kanab, Utah, who has been spending several months at the University Museum.

DR ALEŠ HRDLÍČKA has been appointed full curator of the Division of Physical Anthropology in the United States National Museum. April 1, accompanied by Dr Bailey Willis as geologist, he left for South America to study the remains of early man on that continent. He also expects to undertake anthropological work in Peru and Bolivia on behalf of the Smithsonian Institution.

ON May 16, Dr E. L. Hewett lectured before the University of Colorado Scientific Society at Boulder, on his recent work on the ancient monuments at Copan in Honduras and Quirigua in Guatemala. He has been able to determine the order of development of the art, his results according perfectly with the dates worked out independently from the glyphs by his colleague Mr Morley.

MR WILSON D. WALLIS, who has been Rhodes Scholar at Oxford from Maryland during the last three years, has been appointed Harrison Research Fellow in Anthropology at the University of Pennsylvania for 1910-1911. Mr Wallis has been studying anthropology during his residence at Wadham College, Oxford, and will take his A.M. degree this spring.

SINCE the return of the DeMilhau Peabody Museum South American Expedition of Harvard University, Dr William C. Farabee has received from the Universidad Mayor de San Marcos de Lima a diploma as honorary member of the faculty of sciences in the university, for "scientific merits and important services rendered to the government of Peru."

AT the American Museum of Natural History Dr Pliny E. Goddard has been appointed Associate Curator in the Department of Anthropology. Mr Harlan I. Smith has been advanced to an Associate Curatorship, Dr Herbert J. Spinden has been appointed Assistant Curator, and Mr Alanson Skinner has been added to the list as Assistant.

DR ALFRED M. TOZZER, Instructor in Anthropology at Harvard University, and Mr R. E. Merwin have returned from an expedition to British Guatemala and Honduras. They bring back a collection of antiquities from the four ruined cities which they discovered during the winter's work.

DR FRANK G. SPECK of the University of Pennsylvania spent two weeks at the Easter holidays among the Penobscot Indians at Old Town, Maine, where he collected a number of songs and other material of great value for the ethnology of the eastern Algonquians.

THE ECKLEY B. COXE, JR, EXPEDITION TO NUBIA, of the University of Pennsylvania, reports the excavation of a 12th Dynasty Temple on the site of Behen, opposite Wady Halfa, where a number of fine statuettes and inscriptions have been brought to light.

DR HERMON C. BUMPUS, Director of the American Museum of Natural History, is making an expedition to Mexico to plan the reproduction of certain prehistoric ruins for structural use in the new hall of Mexican archeology.

THE only anthropological paper presented at the annual session of the National Academy of Sciences held in Washington, April 19 to 21, was that of Dr Franz Boas on "The Influence of Environment upon Human Types."

DR CHARLES PEABODY, of Harvard University, has returned from North Carolina, where, during the month of May, he explored two groups of small mounds in Cumberland County, near Fayetteville.

DR FREDERICK STARR, Associate Professor of Anthropology in the University of Chicago, who has been conducting anthropological researches in Japan since September, returned to Chicago in June.

DR GEORGE GRANT MACCURDY has been appointed to represent Yale University at the International Congress of Americanists to be held in the City of Mexico, September 8 to 14, 1910.

THE seventh International Congress of Criminal Anthropology, which was to have been held at Cologne in August next, has been postponed until October, 1911.

PROFESSOR JULIEN FRAIPONT, Rector of the University of Liège, well known for his writings on anthropology and geology, died on March 22 in his fifty-third year.

J. W. LOWBER, Ph.D., F.R.G.S., F.R.A.S., of Austin, Texas, has been elected a Fellow and Councillor of the North British Academy, Newcastle upon Tyne.

NELS C. NELSON and Thomas T. Waterman have been appointed instructors and assistant curators in anthropology at the University of California.

MR H. C. BEYER, a student in the Graduate School of Harvard University, is now an ethnologist in the Bureau of Science at Manila.

ON February 1st, 1910, Dr G. B. Gordon, Curator of Anthropology in the University Museum, Philadelphia, was appointed Director of that institution.

PROFESSOR F. W. PUTNAM, of Harvard University, has been elected a corresponding member of the Società Romana di Antropologia, of Rome.

DR ALEŠ HRDLÍČKA, of the United States National Museum, has been made a corresponding member of the Anthropological Society of Vienna.

AT Dartmouth College Charles E. Hawes has been advanced from an instructorship to assistant Professorship in anthropology.

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No. 2

SOME PROBLEMS OF THE AMERICAN RACE¹

By W. H. HOLMES

THE state of culture progress known as civilization had been reached in parts of the Old World thousands of years before the existence of the continent now called America was suspected. Enterprising navigators had long been searching the seas, in the best craft of their time, for distant lands and especially for new pathways to the far east, but with meagre success until Columbus, in 1492, sailing under the flag of Spain, happened to sight the shores of the western world. That a vast continent should have remained thus hidden away below the horizon of dwellers on the proximate shores of Europe on the east and Asia on the west is a marvel indeed, a marvel paralleled only by the fact that men had already reached this land and that it was occupied by ten million people of a type wholly unknown to the wise men of the east.

In the four hundred years of exploration and research which have followed the Columbian discovery no one has been able satisfactorily to answer the oft-repeated questions of the *how*, the *when*, the *whence*, and the *who* of the aboriginal inhabitants. Although we cannot hope to answer these interrogations fully, they are living questions, and refuse to be set aside or lightly passed over. The early stages of the investigation have given rise to much vain speculation, and much has been written advocating views that later have become untenable and are now on the high road to oblivion. Today the field of research is well cleared, and the problems are be-

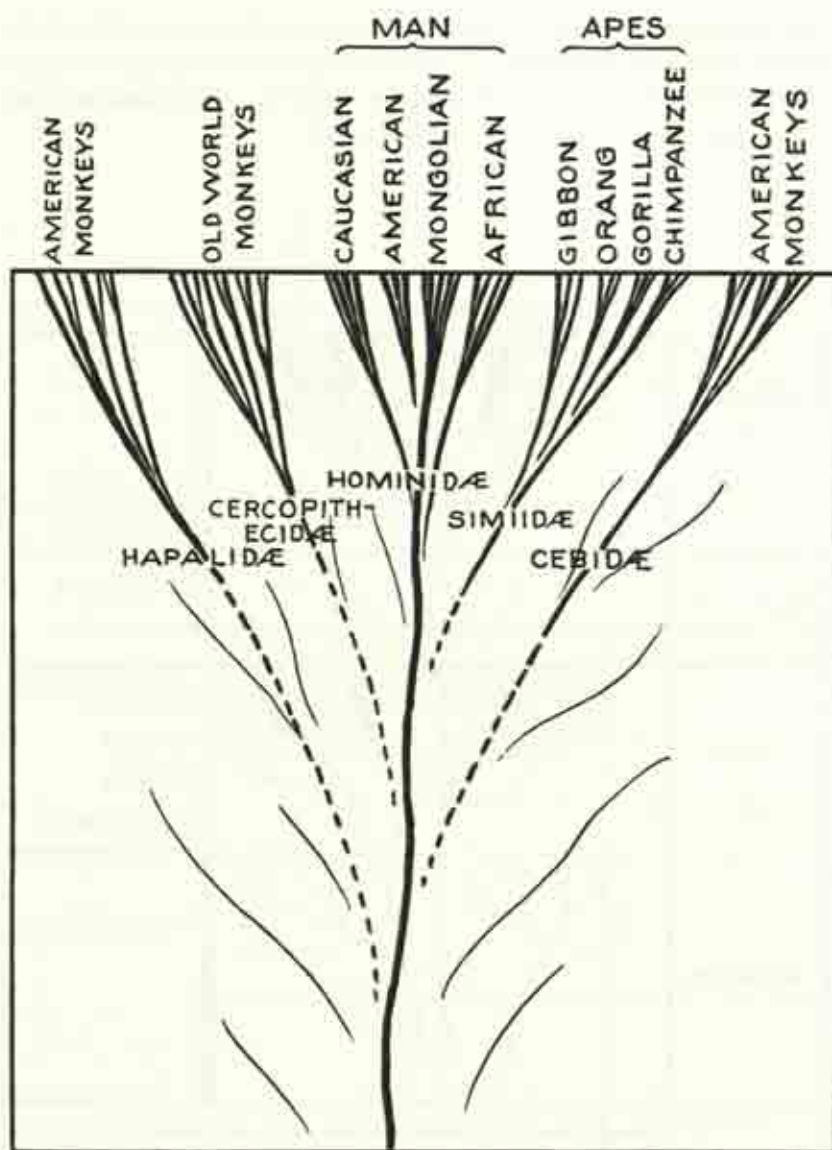
¹ Read in part before the American Anthropological Association, Boston, December 28, 1909.

ing presented and discussed in the broad and searching light of modern science. Comparative anthropology aided by a galaxy of allied sciences is scanning the problems from modern points of view, and our expectations of still stronger light are aroused by recent achievements of the rapidly developing and noble science of geology, which, word by word, page by page, is laying bare the marvelous records of the rocky strata of the earth's crust in which the secrets of the past lie hidden. To this science we must look for a more complete knowledge of the habitable areas of the globe and their relationships one with another throughout all periods, and above all it is geological research that must furnish the missing links, osteological and cultural, and the chronology of events that shall enable us to formulate, in outline at least, a connected history of the human family.

BIOLOGICAL PROBLEMS

In approaching the history of the American race the first problems to present themselves are biological. We can consider neither the people of America nor the peopling of America without dealing first with the history of the human family, its derivation from antecedent forms, the maturing of the species sapiens, the original habitat and dispersal to the various land areas of the globe. These problems are yet largely in the speculative stage, but facts enough have accumulated to aid us in formulating working hypotheses and to make it possible to lay out and conduct intelligent researches.

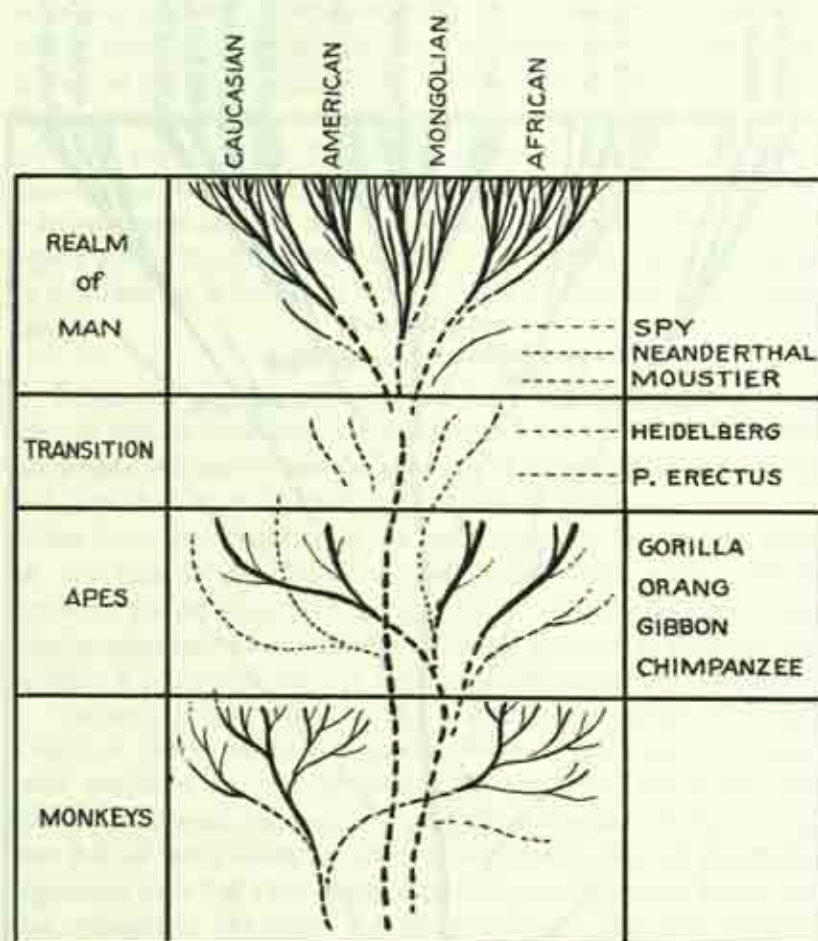
Formerly it was very generally held that man stands alone as a separate unit of creation, distinct in every respect from other creatures, and there may yet be diversity of opinion on this point; but science has opened the way to a general acceptance of the conclusion that all living forms are parts of one system, that all the higher organisms alike had their beginnings in more elementary forms, and that, whatsoever the forms previously assumed, they have come to be what they are through a long series of specializing transformations. The culminating member of the wonderful series of progressive steps is the family *Hominidæ*. The various specializing agencies concerned in the evolution of the numerous more or less well-defined species and varieties of man are the subject of earnest research, but their analysis is beyond the requirements of this



I. — The human groups and their kindred of today.

sketch, the main purpose of which is to summarize briefly the relations, biologic, chronologic, and geographic, of the American race

with the principal Old World groups — the Mongolian, the Caucasian, and the Ethiopian.¹ The genetic relationships of these groups with their immediately inferior kindred — the Simians — of the present day are indicated in Diagram I.

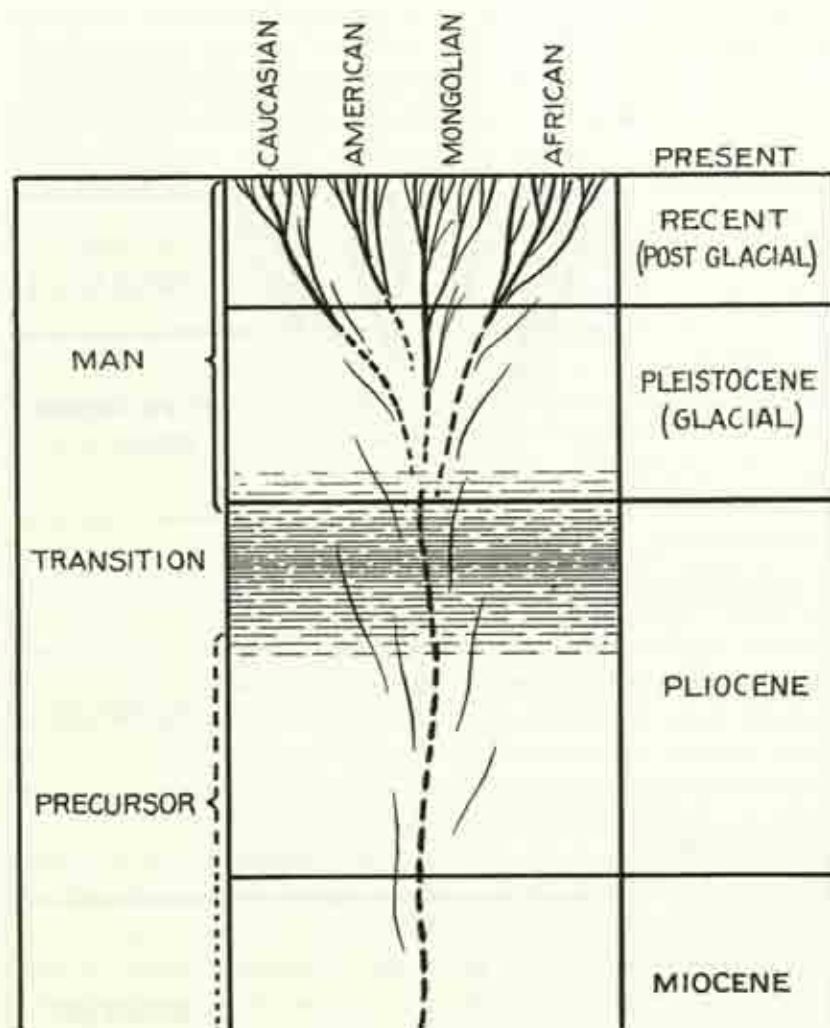


II. — Developmental relationships of men, apes, and monkeys.

Diagram II expresses roughly our conception of the general developmental position of the four members of the human family

¹ The term *race* is employed loosely in speaking of any of the somatic groups, as the simian race, the human race, the American race. The term *variety* is employed in like manner for various secondary and minor subdivisions.

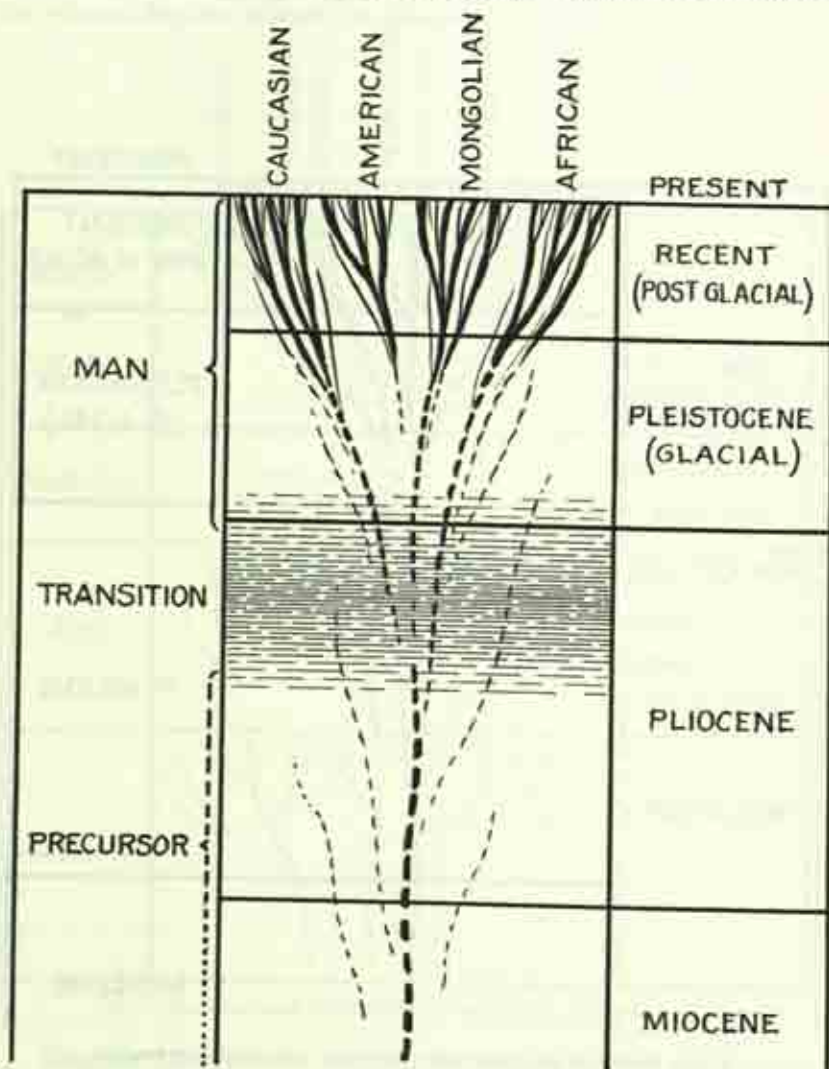
with relation to the lower allied forms whose genetic position is indicated in Diagram I. The upper zone is the realm of man; the second, the realm of the apes; the third, the realm of the monkeys. In the



III. — Parting of the groups after the human status had been reached.

superior zone are the *Hominidæ*, represented by four sub-divisions — the Caucasian, the American, the Mongolian, and the African — and an indefinite number of varieties, the genetic stem connecting down-

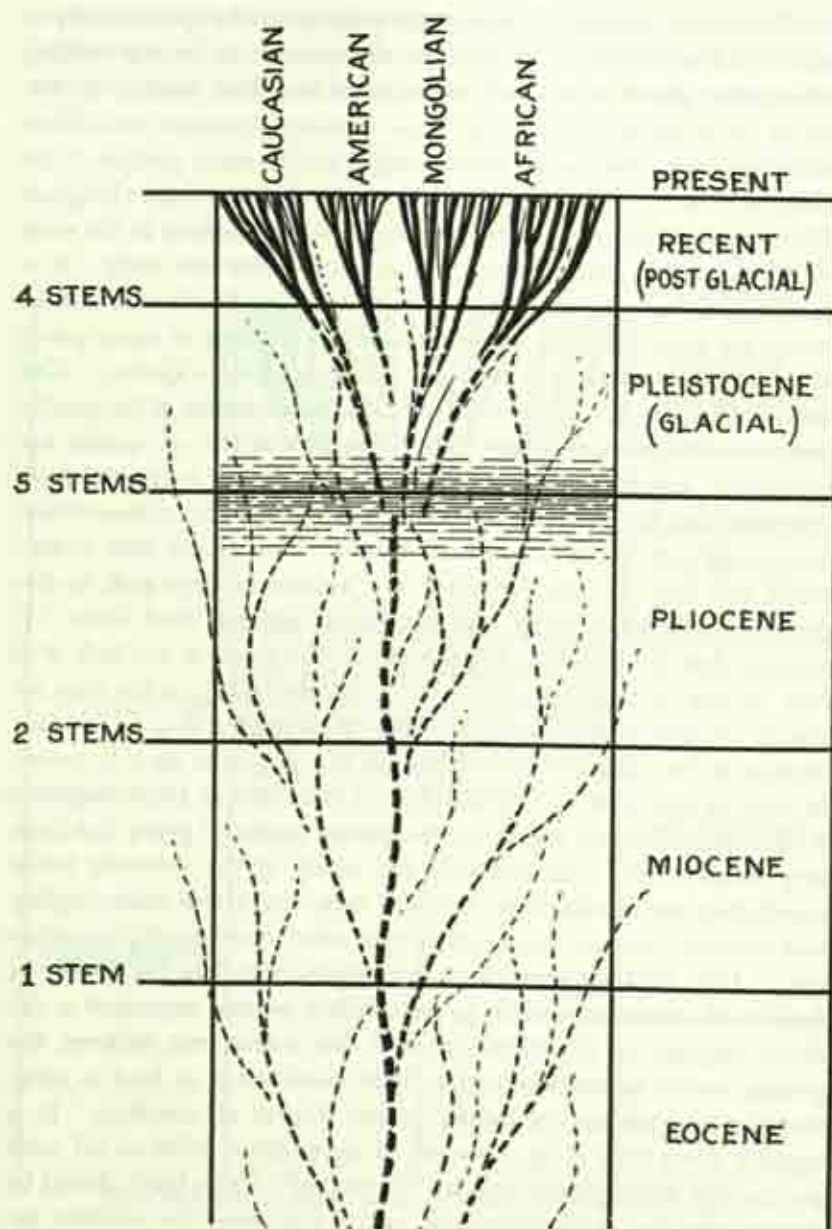
ward through the successive stages of development to hypothetical beginnings. The connections, or lack of connections, of this stem with the stems of the various groups of apes and monkeys are neces-



IV. — Parting of the groups before the human status had been reached.

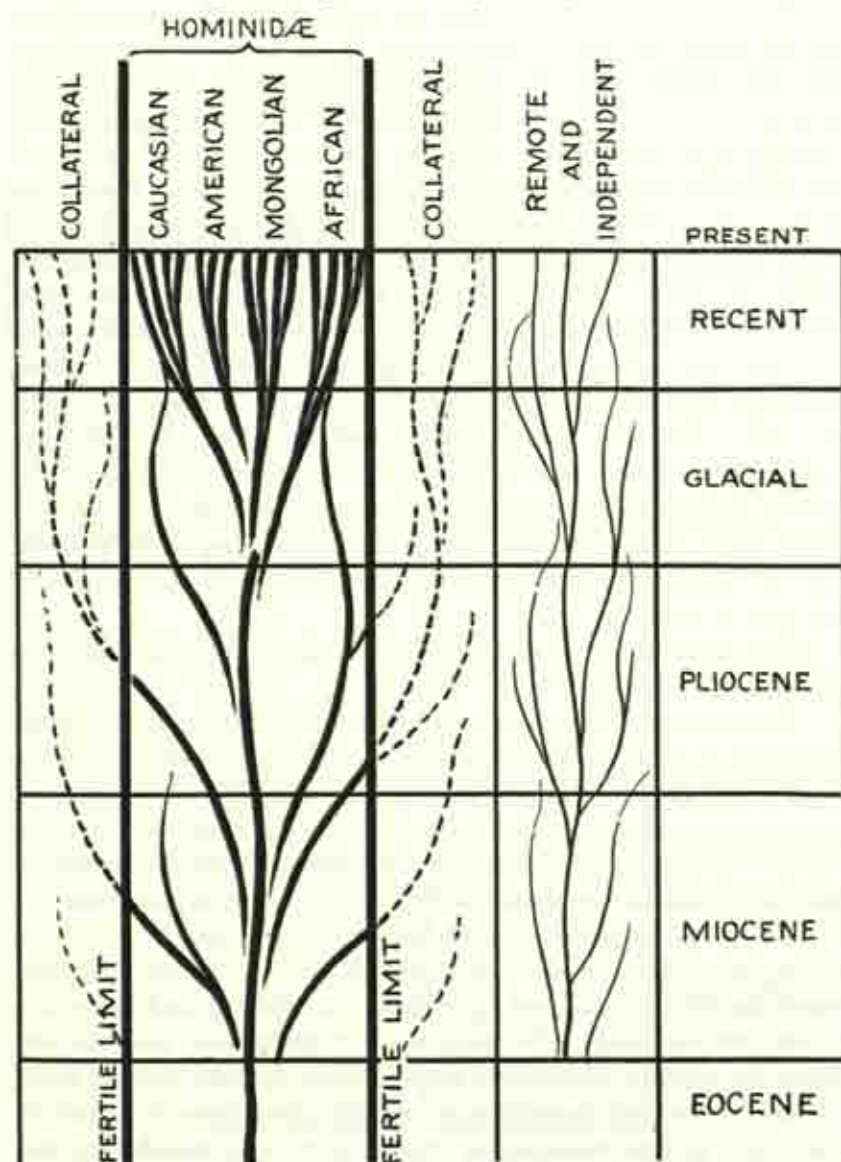
sarily indefinite, but the morphologic relationships with these groups are such that we can not avoid the conclusion that each has separated in turn from a common, generalized ancestral stem.

Discussion has raged around the question of the specific unity of man. It is not even known whether the ways of the several existing sub-species parted after the human status had been reached by the group as a whole (Diagram III) or whether separation and differentiation took place at an earlier stage, two or more groups of the *Hominidae* thus rising independently to the status of man (Diagram IV) and finally occupying their present relative positions in the scale of development. Some hold that the separation was early. It is maintained, for example, that the African, or black, sub-species stands far apart from the other branches, presenting so many points of decided dissimilarity as to be classed as a separate species. This would affect the form but would not alter the character of the genetic tree (see Diagrams III and IV). The limitations of species are necessarily indefinite and it is quite sufficient for our purpose to have it agreed that the several races of men are derived by differentiation from a common stock, howsoever that stock may have been constituted, and that the differences are due, at least in large part, to dispersal to several more or less completely isolated land areas. It appears that the question of the unity of the races or the lack of it may be one of definition only, the answer depending on the view we choose to take as to what constitutes the human status. Our conception of the race tree as indicated in the diagrams may, however, be wide of the mark. The assumption embodied in these diagrams is that the biological history of the human ancestral group has been very simple. It is implied that the whole of the mutually fertile population was confined to a single area where free intermingling was possible, but this assumption may need more careful examination. It is well understood that if, at any period in the history of families of creatures, certain groups should become separated in different regions, or continents, so that free intercourse between the groups would be interfered with, there would arise, or tend to arise, varieties and species according to the degree of variation. It is equally clear that if by changes of geographic relations all such groups, not differentiated beyond the mutually fertile limit, should be thrown together indiscriminately, unless kept intact by selective antagonisms they would tend to return to the simple condition of a uniform stock. This coming together may have happened to any



V.— Possible complexity of the ancestral stem of the human family.

two, three, or more of the groups, in case so many existed; and as the result of successive geographic changes such as the world may well have undergone, the process of separating and uniting may have



VI.—Significance of the "mutually fertile limit."

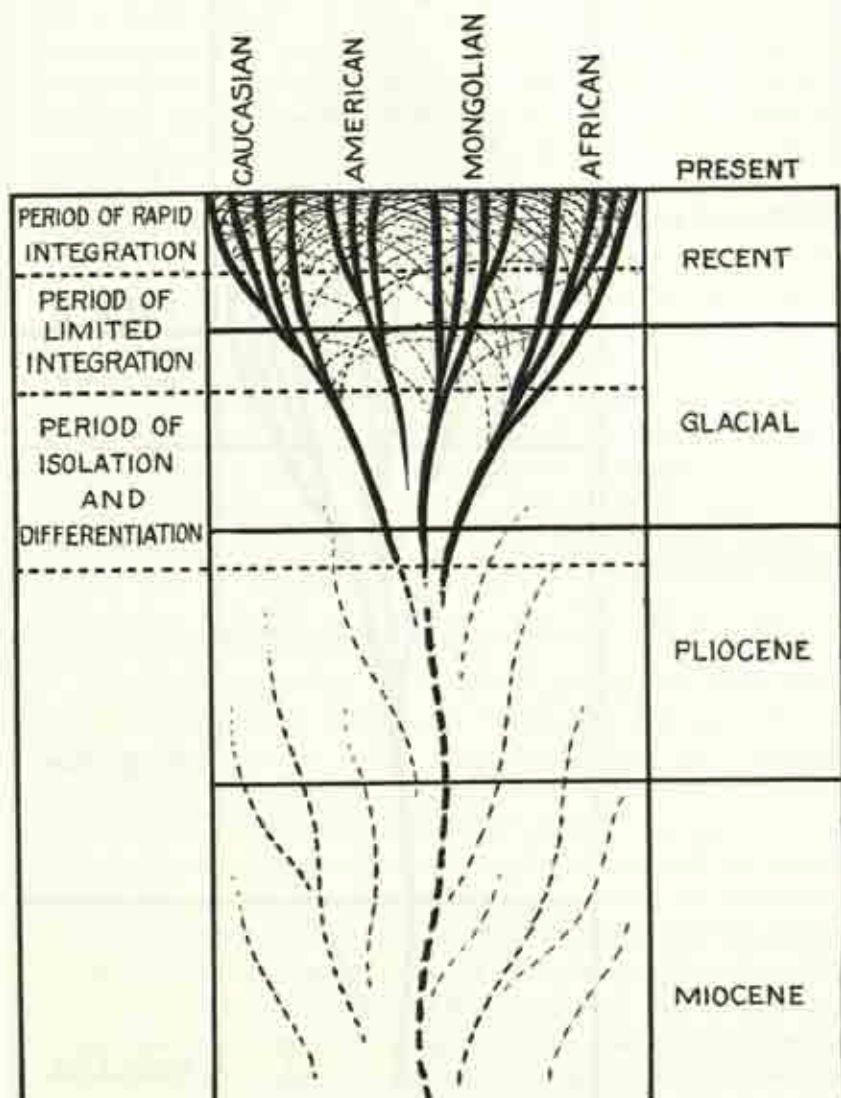
continued indefinitely. Who shall say then what was the precise condition of the ancestral human stem at any period in the past? The black race for example may be, as the diagram assumes, the result of a branching and subsequent isolated growth, but may it not be the result of the merging of two or more widely variant lines brought together through environmental changes? In like manner may not the Mongolian be the resultant of other mergings and the Caucasian of others still? May not the conditions of the ancestral stem then be something as seen in Diagram V, where we have illustrations of strict monogenesis on the one hand or polygenesis on the other, according to the place in the history of the family at which we draw our datum line. There may never have been a time when there was a single homogeneous race stem and hence never ideal monogenesis. If we regard all the groups of related beings within mutually fertile limits as the stem, there has never been any condition other than that of monogenesis, and that, I take it, is the true view. That at any time in the past, even at the so-called cradle period, there could have been a single homogeneous group cannot be proved and need not be assumed. That at any time in the past the ancestral stock should have been reduced to a single pair is beyond the pale of belief.

The significance of the expression "mutually fertile limits" is indicated in Diagram VI.

Unless some of the groups already outside of the mutually fertile limits by an extraordinary reversion should return within the fertile limit there could be no polygenesis. Should any one venture to assert that such a return had come under observation we should be tempted to perpetrate a hibernicism by affirming that the coming in afforded excellent proof that there had never been a going out.

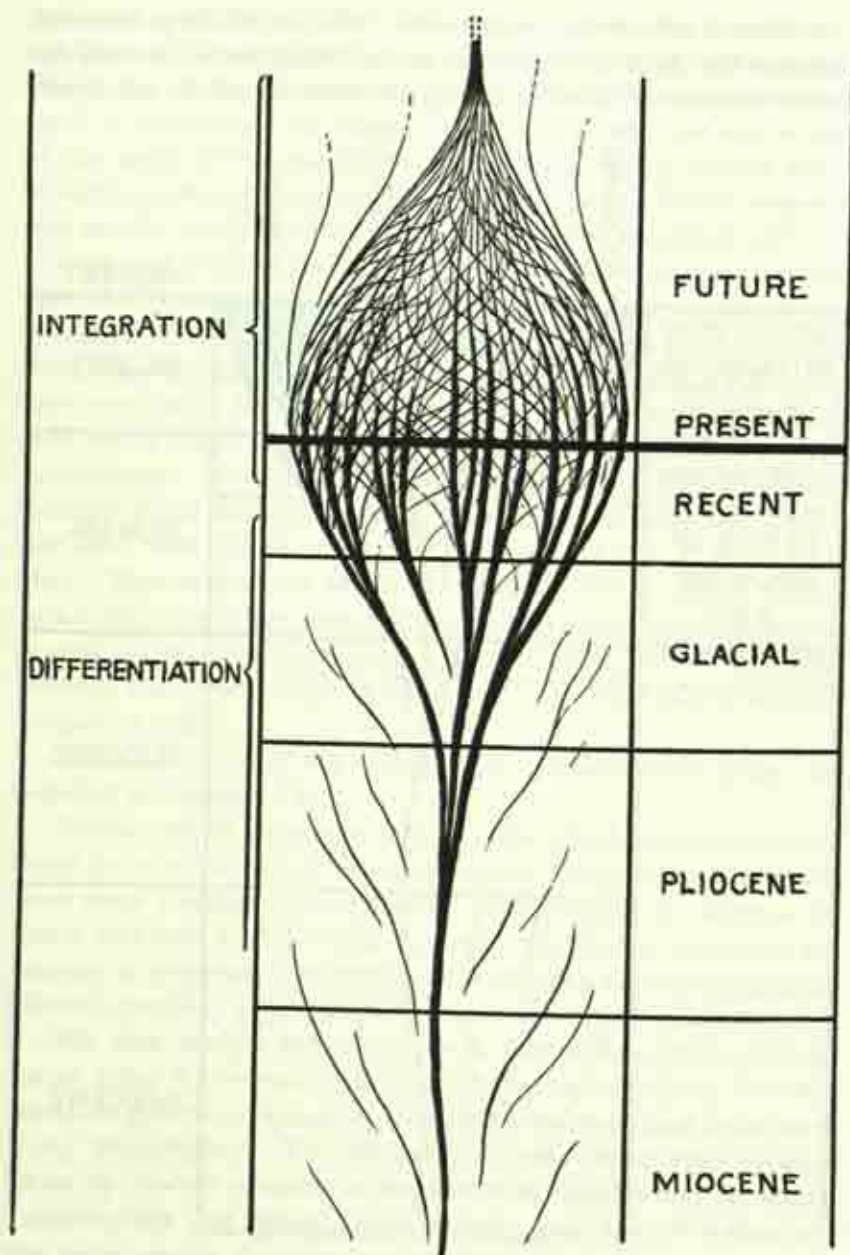
We may derive a valuable lesson in race mutation from what is taking place in the world today literally before our eyes. We observe the groups produced by isolation on separate land areas now freely intermingling. The geographic barriers have been broken down by modern advances in transportation facilities and the racial comminglings that formerly went on only along lines of contact of the racial groups, resulting in limited mixture of bloods, are now taking place on a grand scale. The progressive character of these

conditions is indicated in Diagram VII ; this is especially pronounced between the black and red races ¹ in the United States, between the white and red in Mexico, among all three in middle and South



VII. — Periods of differentiation and integration.

¹ It is convenient sometimes to use the color terms for the four sub-races, although it is understood that the red race is never red, the white never white, the yellow never yellow, and the black often not black.

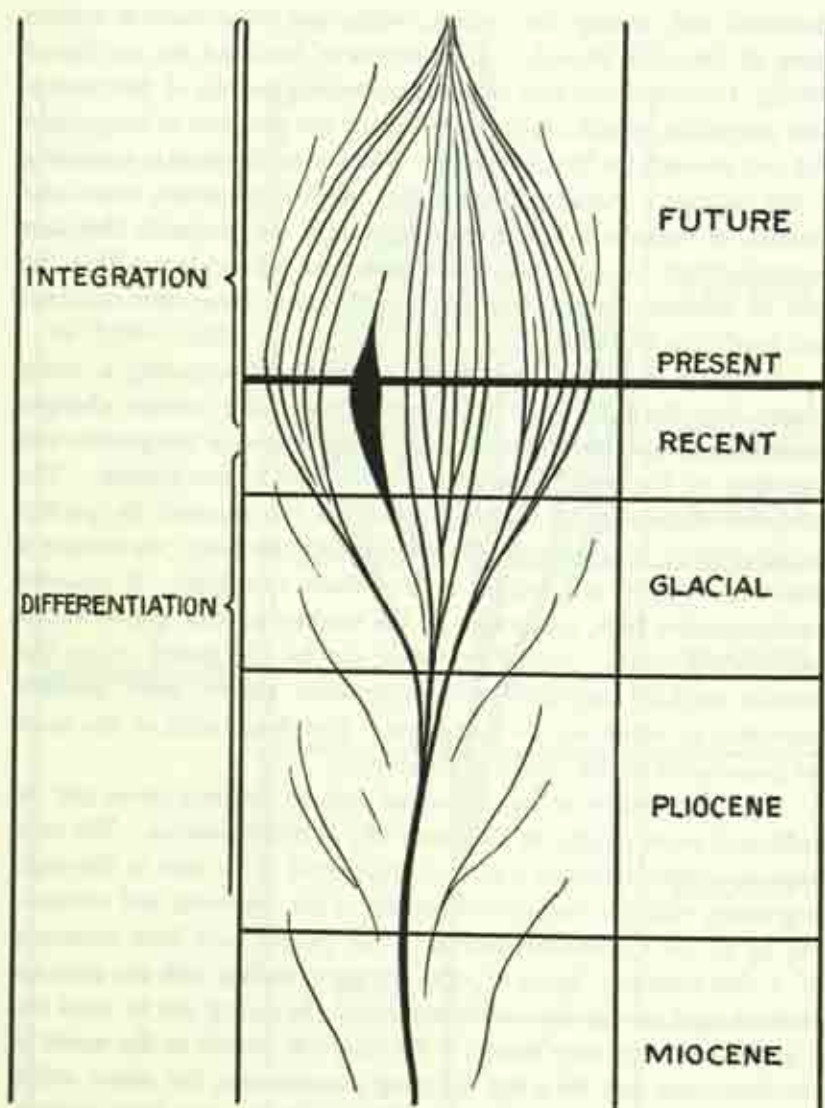


VIII. — Past differentiation and assumed future integration of the somatic groups.

America, and among the yellow, white, and black races in various parts of the Old World. The barriers of land and sea are almost wholly broken down and the only remaining barrier of the races is race prejudice, which attitude will retard the progress of integration but not prevent its final triumph. The fate of the races is manifestly in the balance. Although somewhat similar conditions must have existed at various times in past ages, it is not probable that race comminglings on an equal scale have ever taken place within the line of human descent, but that like blendings have often occurred can hardly be doubted.

Stepping over the line of the present, and venturing a hasty glance into the future, we may forecast successive somatic changes as indicated in Diagram VIII. The progress of integration and blending of the racial elements will be rapidly accelerated. The complete absorption or blotting out of the red race will be quickly accomplished, and beyond this, though still far away, we foresee a final reduction of all peoples to a common race type. If peaceful amalgamation fails, extinction of the weaker by less gentle means will do the work. No other result can be anticipated unless the wonder-working agencies of transportation should make possible migration to other worlds than ours. The final battle of the races for possession of the world is already on.

The life history of the American race, as outlined above and as indicated more clearly in Diagram IX, is simple indeed. We infer from abundant evidence a slow development of the race in the past, beginning with the earliest occupation of the continent and continuing up to the Columbian period. Our people have been witnesses of a few hundred years of vain struggle ending with the pathetic present, and we are now able to foretell the fading out to total oblivion in the very near future. All that will remain to the world of the fated race will be a few decaying monuments, the minor relics preserved in museums, and something of what has been written. Today, before the wave of foreign invasion has fairly reached the remoter regions of America, the exotic peoples number nearly one hundred millions, the mixed bloods fifty millions, and the native remnant of strictly pure stock may be thought of as an almost negligible quantity. The Indian population of the United States in



IX. — Life history of the American race.

three hundred years has been reduced to less than one-third the original number, and among this remnant the pure bloods have to be sought in far-away districts. The end is thus not far to seek.

PROBLEMS OF RACE RELATIONSHIPS

It is customary to speak of the American aborigines as a single sub-species or variety, but there are really two well-marked divisions—the Eskimo of the northern shoreland and the Indian tribes occupying the expansive areas to the south. Occasionally we hear the former spoken of as the possible original occupants of a large part of the northern continent, and traces of their presence are supposed to have been found far to the south, but nothing has been proved regarding such primary occupancy. Though scattered over extensive and more or less isolated districts, the Eskimo are a singularly homogeneous people physically, intellectually, and culturally, their language even showing only dialectic variations. This condition does not support the assumption that they formerly occupied extensive areas, where under widely varying environments they would be subject to strong differentiating influences, sure to tell on the language, institutions, and arts of a very primitive people. When we observe that the Eskimo are manifestly more closely allied with the boreal peoples of the Old World than are the Indian tribes, and take into account the fact that they occupy the northern margin of the continent including the ferry and the bridge to Asia, we conclude that they represent late intercontinental movements and that they may be comparatively recent arrivals in America. The Eskimo probably acquired in a measure their present distinctive characteristics, somatic and cultural, in some restricted American area, and possibly, when glacial researches shall have made clear the succession of events connected with the appearance and disappearance of the ice sheets, the whole problem may be susceptible of solution. The Eskimo may be the Alaskans of the Glacial period, or of a portion of that period, occupying the large areas in the northwest not invaded by the ice, in contact always with the tribes across Bering sea, but separated completely for thousands of years from the Indians (assuming the existence of the latter) on the southern side of the great glacial barrier. Under such conditions they would naturally have followed the ice as it receded to the east until Greenland was reached, but would have been checked in southward movements by the advancing front of the tribes of the south.

On the other hand the Indians, scattered over the two Americas, show comparatively wide divergence among themselves in secondary

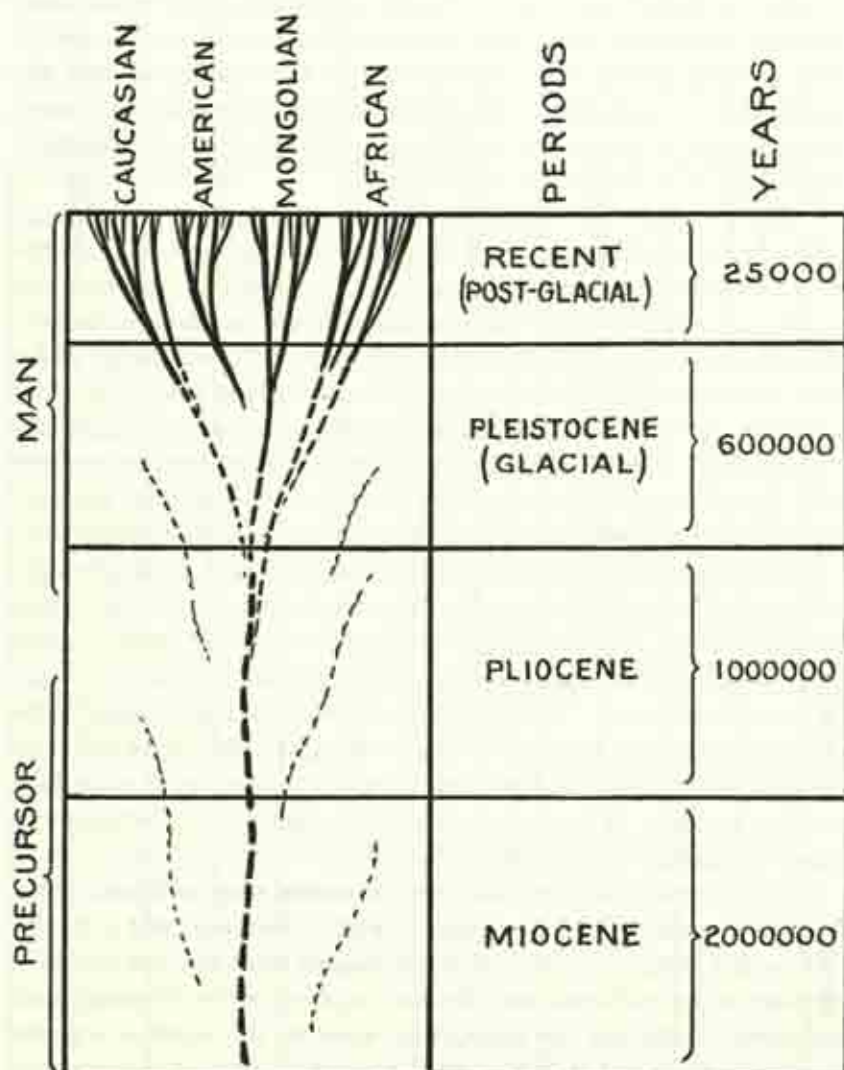
racial characters and especially in cultural achievements, a condition indicating a prolonged period of well-localized yet not wholly isolated occupancy. As a race they had become so highly specialized that many of the earlier observers failed to discover their true racial affinities and sought to derive them from various European, Asiatic, African, and Polynesian peoples. Recent researches in comparative ethnology, however, have set the matter right, and the connection of the Americans, in large part at least, with the peoples of Asia has been pretty satisfactorily established. In a large percentage of their characters the American aborigines distinctly approximate the Asiatic type of man. It is held by some well-known authorities that the Asiatic invasion of a round-headed people was preceded by the arrival of pioneers of the long-headed paleolithic race of Europe, by way of a North Atlantic land bridge supposed to have connected the two continents down to post-glacial times. But the best authorities today recognize no such bridge and it seems likely that the long-heads and the short-heads will have to be accounted for in some other way. This way has been provided by some theorists on the assumption of a paleo-American race of long-heads which has been located in South America. It is apparent, however, that the theories have been devised to account for the presence in America of the two types of crania. The explanation may better be sought perhaps in local tendencies to variation, paleo-Asiatic or American, rather than in the presence of other than Asiatic-American elements.

PROBLEMS OF TIME

The second group of problems comprises those of time or period. When did the family mature as man, and when did the expanding population spread from the region in which the *Hominidae* took shape, to occupy the various land areas of the globe? Beyond the limits of written history our only time scale is furnished by geology, and the correlation of our branching ancestral stem with the leaves of the great stone record furnishes a chronology which, although as yet imperfect and largely tentative, as investigation proceeds must assume definite and authoritative form.

The condition of the several subdivisions of man at the beginning of the historic period, a few thousand years ago, indicates that the

status of the then known groups — the African, the Mongolian, and the Caucasian — was much the same as now. The separation must



X. — Chronologic position of the human tree.

have taken place, therefore, ages before, and there is good reason for supposing that two or more of the sub-species were occupying their

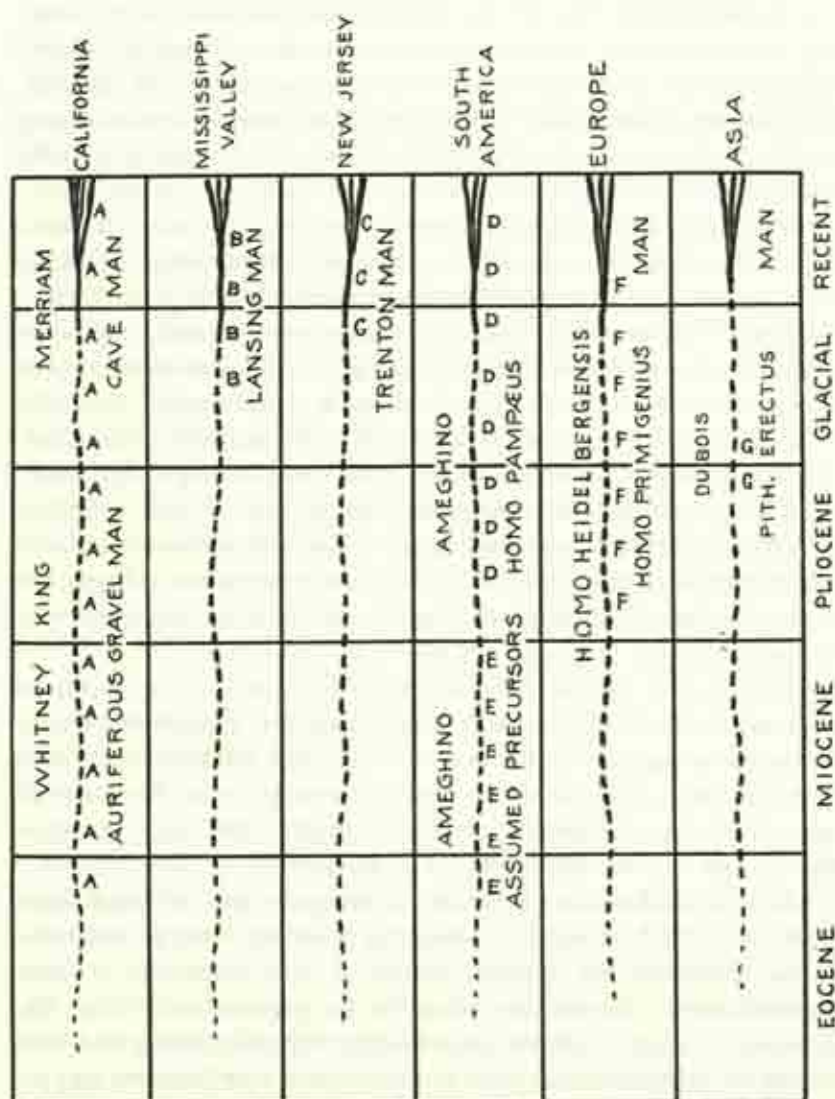
separate land areas during part or possibly all of the prolonged period which we speak of as Pleistocene or Glacial. We may even venture to believe that man, or highly developed forms of his antecedents, existed on some great land area of the globe at the close of the Tertiary period, and it is regarded as not improbable that the separation and somewhat wide dissemination began with the extensive changes in geography and climate initiated at or near that time, the better part of a million years ago.

The general chronologic position of the human tree thus suggested is indicated in Diagram X, the time of the separation of the four branches being imperfectly defined. It is inferred that some idea of the order of separation may be gained by a comparative study of the physical and mental characters and cultural achievements of the sub-species and their relative positions on the land areas. It is not probable, however, that all were differentiated at once or during the same epoch. The African and the Asiatic may be the result of the first branching, taking permanent form in well-separated environments, the Caucasian and especially the American developing later.

The features of the chronological diagram may be briefly enumerated. The geological periods, beginning above, are: (1) the Recent or post-Glacial, estimated to cover a period of 25,000 years; (2) the post-Pliocene or Glacial, placed at 600,000 years; (3) the Pliocene, at 1,000,000 years. These figures represent an approximate mean of the estimates made by our best chronologists, and can be relied on at least as suggestive of the relative lengths and orders of magnitude of the periods. The general relation of man and his precursor in time is indicated by brackets at the left.

It is surmised by some that the American race, as known to us, may be the product of post-glacial time (American), that is to say, the period, long or short, which has elapsed since the last retreat of the ice to the northeast and the final opening of the thoroughfares between Alaska and the transglacial areas to the south—a period variously estimated at from eight thousand to sixty thousand years. But it is a question whether this period was long enough to have permitted the ripening of conditions, physical and cultural, characterizing the native peoples. That the first installments of the race may have made their way to the south during one or more of the inter-

glacial periods or even in preglacial times is, however, regarded by others as quite within the range of possibility. But the proofs



XI. — Comparative view of the reputed finds of fossil man.

brought forward to establish this early occupation of the continent can hardly be regarded as conclusive in the absence of traces of the

actual presence of man or his antecedents in formations of inter- or preglacial age.

A comparative view of the various geological observations bearing on man's early occupancy of the continents is instructive with respect to the quality as well as to the quantity of the evidence. In Diagram XI a number of the geological observations indicating or assumed to indicate the early presence of man and of possible progenitors on the different continents are arranged approximately in the chronological order assigned to them by the various authorities. The race stems of the several geographical areas, rightfully connected in a common trunk, are here separately prolonged for convenience of presentation. *A, A* indicates approximately the range of positions assigned to the human remains and relics obtained from the caves and auriferous gravel deposits of California; *B, B*, the range of positions assigned to finds in the Mississippi valley, including the Lansing man, the Nebraska man, and the Little Falls man; *C, C*, the position of discoveries at Trenton, New Jersey, and other localities in the eastern United States. The approximate position of discoveries of human remains in the Pleistocene caves of Brazil and in the Pampean formations of Argentina and of more primitive forms in the Argentine Tertiaries, are shown in *D, D, E, E*.

Of the Old World observations we have, at *F, F*, the positions assigned to finds of human remains in western Europe, the earlier examples being *Homo Moustierensis* and the Chapelle-aux-Saints man, France; *Homo Heidelbergensis*, Germany; the Neanderthal man, Prussia; and the Spy man, Belgium. The only important find in Asia is *Pithecanthropus erectus* of Java, *G*.

It is true that the problems of antiquity and of distribution must be settled finally by geological evidence, but as indicated in the diagram the present status of that evidence is most unsatisfactory. Should we accept at its present face value the American evidence placed on record by Whitney, Ameghino, and others, we must reach at once the conclusion that America was inhabited by the human race a million years before the day of *Pithecanthropus erectus* and that the so-called New World was the cradle of the human race or at least of one or more races. These extraordinary results tend to awaken a suspicion that some of

the proofs of antiquity brought forward may be faulty, and this suspicion is further strengthened by our knowledge of the fact that most of the various observations utilized as evidence have been made by persons who were not qualified to deal critically with geological phenomena, or who, not realizing the importance of exact observation, failed to scrutinize properly the conditions under which the human relics were found. In North America much of the evidence which was formerly accepted as satisfactory, on closer investigation has lost its force, and is no longer implicitly relied on as proof of glacial or pre-glacial antiquity. Some of the South American evidence also has been challenged, and it is highly probable that critical examination may demonstrate like shortcomings in observations heretofore generally accepted. It is manifest, therefore, that the problem of fossil man awaits the light of further and prolonged research, and requires especially as a preparatory step the clearing away of a heavy burden of faulty observations and unwarranted conclusions. An earnest appeal for coöperation in dealing with the various phases of the subject is hereby made to those geologists and paleontologists whose researches bring them into close contact with the later Tertiary and post-Tertiary formations.

PROBLEMS OF ORIGIN

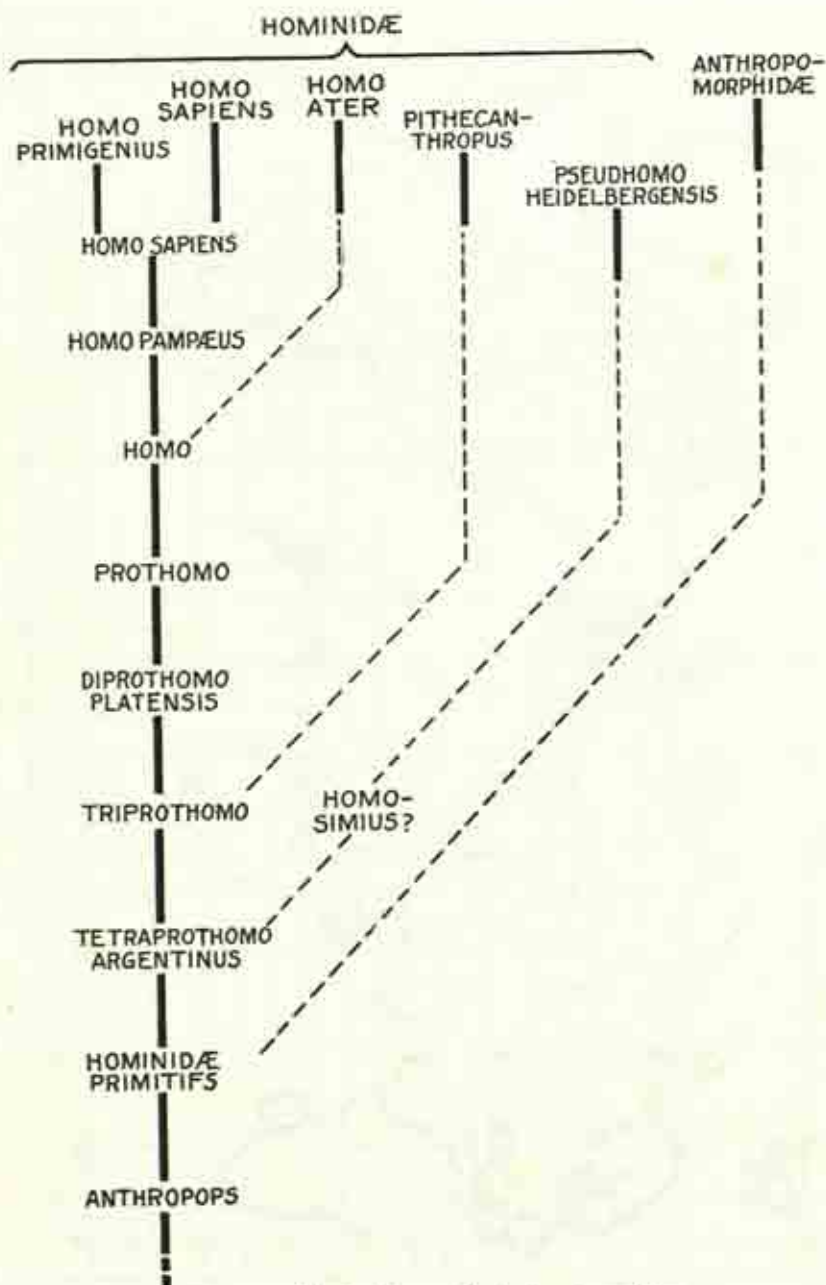
Somewhere in one of the great land areas of the globe lived and flourished the family of creatures to which the human precursor belonged. Somewhere our particular ancestral group worked its way upward out of the simple animal state, passing beyond other groups into the realm of erect posture, articulate speech, the manual arts, and it is reasonable to suppose that in the geological formations of that environment traces of the osseous remains of the man of this era are still preserved. It is the ambition of the student of anthropology to discover these remains, thus making substantial contributions to the initial chapters of human history.

It would appear that a number of land areas may reasonably lay claim to the distinction of being the birthplace of the race — Asia, Europe, Africa, America, and hypothetical lands auxiliary to both continents, now wholly or in part depressed beneath the sea. Numerous reasons may be urged, however, why this birth land

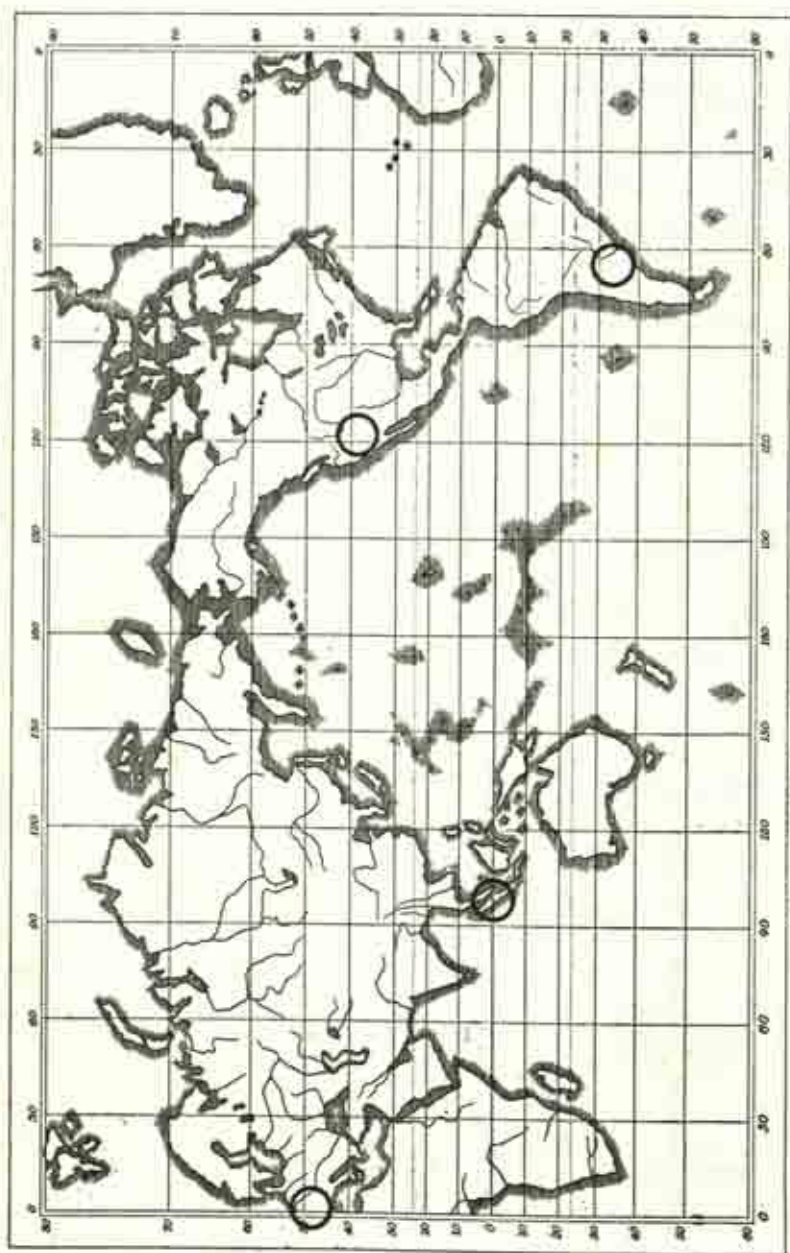
could not have been America. The eastern continent is far superior in area, in resources, and in diversity of living forms; it presents examples, living and fossil, of numerous near relatives of man; and today it contains the great body of humanity having vast diversity of racial characters and wide range of cultural conditions, all tending to indicate a prolonged period of occupancy. The western continent, on the other hand, is more limited in area; it contains or contained in the great body of its area but one race and that comparatively few in numbers and singularly uniform in physical characters and cultural conditions. It seems in the highest degree improbable that migration from America, at least of representatives of the present homogeneous race, could have resulted in peopling Europe, Asia, Africa, Australia, and Polynesia with races so diversified as the black, the yellow, and the white.

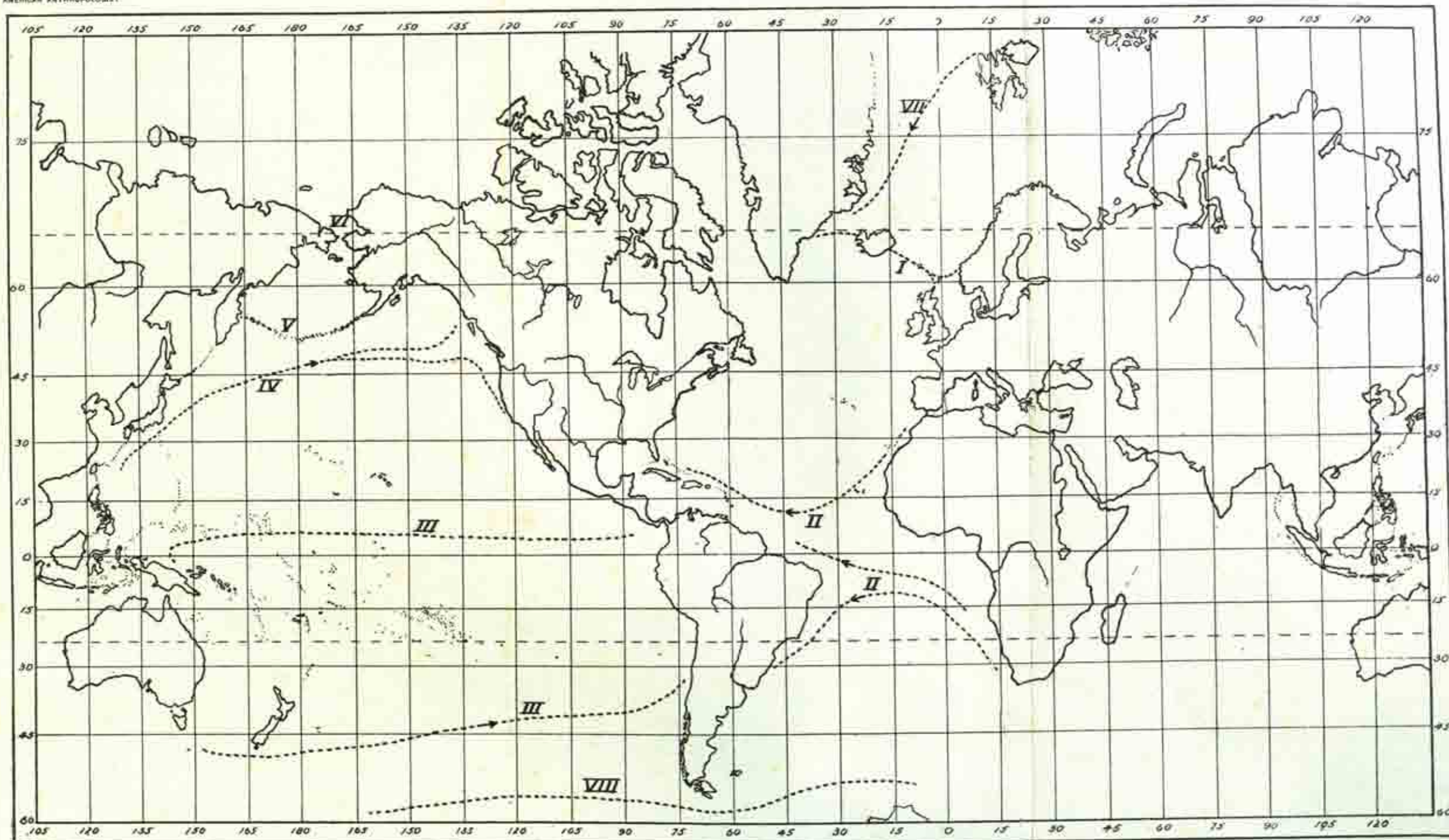
Advocates of the autochthonous origin of American man are just now claiming particular attention. Armed with the fragment of a fossil femur said to have come from the Miocene beds of the Argentine Republic, a stray vertebra, certain cinder-like relics, and other traces, also from middle Tertiary beds, Ameghino has constructed the remarkable scheme presented in Diagram XII. This diagram embodies and connects in a system not only the various human traces reported from the Argentine Republic and Brazil, but accounts for all human stocks in the New as well as in the Old World. The material employed in the development of this ambitious scheme is extremely meagre and will doubtless in a great measure fade away under the sharp fire of criticism that must ensue.

The attempt to locate the regions occupied by the human forebears at any particular geological period or stage of evolution is beset with great difficulties, the chief of which is the dearth of finds of well authenticated fossil remains, while many of the traces that have been found, such as *pithecanthropus* and *dryopithecus*, must be employed with the greatest care, since no one can say without additional connecting links whether or not they belong to the direct line of human descent. Considering the hints furnished by the various fossil finds, as tentatively shown in Diagram XI, four possible cradle regions are suggested, namely; Java, western Europe, California, and Argentine, as indicated in Diagram XIII.



XII. — Ameghino's scheme of South American origins.

XIII. — Distribution of hypothetical cradles of the *Hominidae*.



XIV.—Bridges and ferries to the New World: I, North Atlantic bridge and ferry; II, Mid-Atlantic currents; III, Middle and South Pacific currents; IV, North Pacific or Japan current; V, Aleutian bridge and ferry; VI, Berings bridge and ferry; VII, East Greenland Arctic current; VIII, Antarctic currents.

Assuming a common origin for the *Hominidæ* in some parts of the Old World and climates and grouping of the continents corresponding in the main to the present, the probabilities seem favorable to the view that dispersal to distant land areas did not take place until the populations had greatly multiplied and until considerable advance had been made in the arts of humanity. Under known geographical and climatic conditions, America naturally would have been the last of the great land areas to be reached.

PROBLEMS OF INTERCONTINENTAL COMMUNICATION

According to the testimony of both geology and biology the eastern and western continents for a long period have been connected more or less intimately by bridges and ferries. No one can say, however, just what obstacles may have stood in the way of migrating peoples at any very early period and when and how the various obstacles were met and overcome. We cannot even say with certainty whether the first intercontinental migration was made by the practically cultureless pioneers of the *Hominidæ*, by wandering hordes of the early Stone Age, or by tribes employing the dugout or the skin boat. These problems are the subject of earnest research, and a consideration of first importance is that of the character of the bridges and ferries, the possible routes by means of which the American continent could have been reached (Diagram XIV). As they appear today these approaches are first, the north Atlantic chain of islands connecting northern Europe with Labrador; second, the mid-Atlantic currents setting steadily westward from the African coast to South America and the West Indies; third, the middle and southern Pacific currents traversing the vast expanses separating the Polynesian islands from South America; fourth, the Japan currents setting to the northeast from Asia and washing the shores of North America; fifth, the Aleutian-Commander chain of islands connecting Kamchatka with Alaska; sixth, the well-known route by Bering strait; and, seventh, possible connections during remote periods across the Polar regions north and south. Geological changes within the human period may have obliterated other thoroughfares, and all of those enumerated above may have undergone changes increasing or diminishing their availability as routes of

migration. As they stand, the majority are not available for primitive voyagers, and could have been traversed only by wayfarers drifting with the winds or currents to transoceanic shores. Such voyages are not likely to have occurred except in comparatively recent times, and can hardly have resulted in colonization or in seriously affecting blood or culture in regions already occupied. The story of Fusang, the land accidentally reached by early Chinese voyagers, is not of consequence in this connection, since the time is recent, and since it is not at all probable that the land visited and reported by the wandering priests was America. If, as is generally believed, Fusang was Japan, the backward state of eastern Asiatic navigation in recent centuries is thus clearly indicated.

It is well known that Japanese junks have been found floating in the near Pacific or stranded on the American shores, but this also has little bearing on the question of the peopling of America, since this continent was certainly inhabited before the Japanese junk became a sea-going vessel.

It has been a favorite theory with a few writers that the north Atlantic was wholly or partially bridged by land connections in the remote past, that the Faroe islands, Iceland, and Greenland were so intimately connected that northern Europe has furnished at least a part of the American population; but modern researches seem to discredit this theory, and James Geikie, in a recent work, does not hesitate to declare¹ that "not a single scrap of evidence" can be adduced in support of the once generally accepted idea of a pre-glacial or early glacial elevation of the northern Atlantic sea bed. The elevation of this region was probably assumed by glacialists as the best means of explaining the glacial period. This route may be omitted, therefore, from consideration as a probable thoroughfare for European migration to America. Highly developed water craft carrying fresh water and a food supply would be required to traverse the three formidable stretches of open sea between the Faroe islands and Labrador. There are no currents setting in the proper direction to aid in this voyage, and storm driven mariners are not to be counted on as colonists.

The chance of voyagers having reached America intentionally

¹ Geikie, J., *Fragments of Earth Lore*, p. 283.

with the aid of the trade winds or the mid-Atlantic currents, prior to the time of Columbus, is perhaps too slight to call for serious consideration. The shortest possible voyage between Africa and South America is upwards of 1,000 miles in length. The fabled Atlantis has been regarded as a possible route of communication between the two continents but geologists say that, if an Atlantis ever existed, it certainly disappeared before the beginning of the human period.

In the southern and middle Pacific there are thousands of miles of open sea separating South America from the nearest Pacific islands, a condition precluding the idea that very primitive peoples could have found a thoroughfare here, and geologists have discovered no evidence tending to show that these enormous gaps were ever bridged. The same may be said of the route of the north Pacific current, which originates in the Japan sea and sweeps the shores of North America from the Aleutian islands to the Gulf of California. Traversing these vast wastes of ocean was hardly possible, even by drifting voyagers, until within comparatively recent times.

We now approach the route afforded by the festoon of islands draped like a wreath, in the Pacific between Kamchatka and Alaska. Today, with the boats of the primitive natives of both coasts, this is a possible route, but the voyage has one great interval of 300 miles of open and generally tempestuous sea. It was not, therefore, a probable route for very primitive times. Examinations of the ancient midden heaps and other inhabited sites of the Aleutian islands give no encouragement to the idea that this was ever a thoroughfare for migrating populations. Doctor Dall's careful explorations¹ indicate that three periods of Aleutian occupancy may be distinguished, estimated to embrace in all some 3,000 years or more. The earliest period is represented by the echinus eaters, a people of the lowest culture, apparently without fire, and, so far as the evidence goes, without implements or utensils of any kind, and necessarily without boats or any other possible means of sailing the seas. The second occupants were fish-eating tribes, who may have had craft of the simplest kind, but certainly none fitted for long voyages.

¹ Dall, W. H., On succession in the shell heaps of the Aleutian Islands, *Contributions to North American Ethnology*, Vol. 1, p. 41.

The people of the third period were more advanced, approximating to the historic tribes in culture. The first and second occupants were necessarily of continental American origin and the same statement is no doubt equally true of the third. In all the deposits not a trace was found indicating that stranger wayfarers of higher culture, or of any culture, had ever passed that way. If this chain of islands had been a thoroughfare for migrating tribes this could hardly be true. Stations would have been made on all the larger islands and some indications of their presence would remain to the present day. The Commander islands, forming the western links of the chain, were not inhabited when first visited by civilized man, and no traces thereon of occupancy of any kind have been as yet reported. Thus there is an interval of more than 300 miles on this supposed route in which no evidence has been found of human presence, while an expanse of a thousand miles or more shows no trace of migrating peoples. None of the native peoples of the whole north Pacific coast from Japan to California, when first known to the whites, would have ventured to navigate the broad expanse of open sea that separates the outer members of the Aleutian group from Kamchatka without stronger motives for so doing than can now be imagined, and there is no evidence that at any earlier time the people of this coast were more enterprising or skillful in boatmaking and navigation, or that stronger motives for attempting the voyage existed than during the historic period. Trade by such peoples over such a route is not to be thought of. Neither is there evidence of the bridging of Bering sea by glacial or other ice masses so as to make migration feasible, and it seems highly improbable that it ever was a thoroughfare for any people. It seems safe to conclude that the so-called Aleutian-Commander island route is not and never has been an intercontinental route of travel.

Among the possible gateways to America, interest centers chiefly around that of Bering strait; it is apparently possible, without change in present intercontinental relations, for Asiatic peoples of primitive culture to have reached and peopled America. The distance from land to land is only forty miles and during especially frigid seasons ice forms a bridge so complete that crossing becomes a question only of the presence of migrating peoples and of warmth and food supply

for the journey. Here then, supposing no important modification of conditions, there has ever been an open thoroughfare from Asia to America for peoples of a culture sufficiently matured to enable them to withstand the rigors of Arctic climates.

PROBLEMS OF MIGRATION

In this discussion we pass over entirely consideration of the fact that inhabitants of the far northwest have moved to some extent across Bering strait into Asia. Occupation of the habitable areas of both continents is so ancient that migratory tendencies must have long since reached a state of practical equilibrium, and recent movements of population back and forth could have no possible relation with the movements of the period of primary occupancy. Although the early settlement of America is readily conceded, the period is not even approximately determined. The theory that the precursor of man occupied the entire world in pre-glacial or early glacial times is not to be accepted on the limited evidence furnished. The main points of this so called evidence are as follows: (1) that traces of possible precursors have been recovered from pre-glacial formations in widely separated regions; (2) that primitive forms of the *Hominidae* have been recovered from early Quaternary formations in western Europe and in South America; (3) that in late Tertiary time the relation of land areas was more favorable to general distribution of the higher mammals than in the present period; (4) that climatic conditions prevailing in Tertiary and earlier Tertiary times conspired with favorable geographical connections to make continental communication easier than it is today; (5) that the physical and cultural characteristics of the American tribes are so highly specialized as to warrant the assumption of great antiquity. These considerations are worthy of close attention, but in the absence of well authenticated traces of man in the geological formations of the periods referred to they must be relegated in the main to the realm of speculation.

At first glance the theory of very early and general distribution of the *Hominidae* may not impress the mind as being unreasonable, yet it should be asked why this group of creatures more than the apes and monkeys should take to wandering into distant and inhospitable regions? When we consider that quadrupeds generally have a

widely distributed and reliable food supply, that nature furnishes them with ample protection from the cold, and that they multiply rapidly, while the precursor of man in all probability was unfitted to withstand the cold of Arctic climates or even of temperate winters, subsisted on tropical fruits rather than on animal food, replenished his numbers slowly, and was not endowed with the fleetness of foot that makes seasonal migrations possible; there seems to be sufficient for reason holding that distribution to the remote, and especially to the temperate and frigid areas, was much slower than would be the distribution of most mammals. The tropical and sub-tropical man of early times would not willingly migrate to inhospitable lands and forbidding environments any more than would the apes today. He had not only to become measurably acclimated but had to acquire sufficient intelligence to enable him to master the adverse conditions of the colder climates and it seems that only highly developed, reasoning, fire-using, implement-making, and warmly-clothed man would be equal to the task. It is reasonable therefore to hold that the *Hominidae* probably did not begin to spread widely beyond their original habitat until the human status had been fully reached and neither far nor rapidly until a considerable degree of culture had been achieved.

Under known conditions of land relations and climate it appears that America could hardly have been colonized by a people not well skilled as hunters and fishers, not acquainted with fire, and not supplied with suitable clothing. Today, deprived of fire and clothing, the human race could not survive a year north of 30 or 35 degrees of north latitude, and it seems that more primitive tropical forms would have little greater chance of survival.

The migrations of the precursor were, no doubt, directed, as were those of the related mammalian groups, along lines of least resistance, as determined by immediate considerations of multiplication of numbers, food supply, safety from foes, climatic change, and instincts acquired from long periods of experience. The movements of primitive man were doubtless of kindred nature, while civilized man is governed more fully by well defined ultimate considerations of welfare.

The movements of the pioneers of the race were not those of

simple migration from a native seat. Each step was the result of pressure of some form which by degrees pushed groups out of the original habitat, thence from environment to environment, each step requiring painful processes of exploitation and adaptation and each being liable to retrogression, defeat, and even complete group annihilations. We may fairly assume, however, that the perpetual struggle for existence necessarily engaged in by migrating peoples dealing with new and strenuous conditions developed the hardihood and the higher attributes of mind that in time came to characterize the race, making possible the conquest of the remoter parts of the world.

Considering the conditions under which dissemination must have taken place, it seems improbable that man occupied all lands while still within the very primitive stages of progress and we are bound to insist at least that early or even late peopling of any land should not be assumed but should be established by evidence that can withstand the severest criticism. When we recall the difficulty with which the civilized nations of Europe, possessed of sea-going craft, reached far lands, it should not surprise us if primitive man, without boats, or with craft of the simplest kind only, left some of the remoter regions of the world, as, for example, America, for a long time undiscovered.

The ten thousand miles separating tropical Asia and tropical America could be traversed by men afoot in a few years of continuous progress, but for reasons already given we must not think of the movement that led to the peopling of America from tropical regions, possibly of the Old World, in the light of an ordinary journey. Previous to the period of commercial activity among nations the home of each people was the center of the world to that people and in the absence of a strong motive long journeys would not be undertaken.

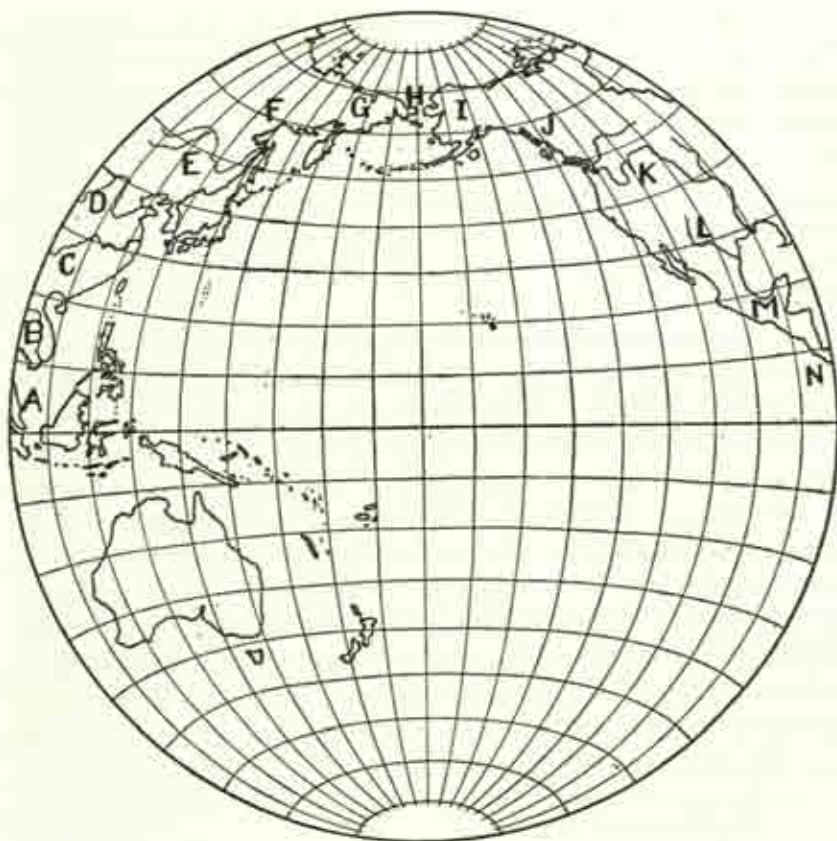
The precursor of man at the period of his specialization as man probably occupied a limited area — possibly a single homogeneous environment — and the variations of race took place as a result of dispersal and consequent group isolation. We may fairly assume that the precursor, during the stage of development represented by *Pithecanthropus erectus*, occupied some area in southern or south-

eastern Asia not larger perhaps than that occupied by the gibbon or the orang today. Can we imagine agencies sufficiently potent to have sent such a creature in haste northward a thousand miles, from tropical Java, for example, to the sub-tropical Irrawaddy, thence, later, five hundred miles into the temperate Yellow river region, thence a thousand miles or more into the Amur valley, and thence again two thousand miles over the icy plateaus and ranges into Siberia, across the chill and barren tundra to the Anadyr, and finally to arctic Cape East? A tendency to wander may be assumed, but pressure of multiplying numbers would seem to be the only adequate agency in driving peoples from a land of warmth and plenty to the inhospitable regions of the North. At best a vast amount of time necessarily would be consumed with each of these great steps. In fact, the changes would be so profound in respect to climate and food supply that the wonder is that a tropical creature ever succeeded in accomplishing the feat.

I should prefer to assume that the movements were made very gradually, that in temperate climates the elements of culture were acquired through repeated struggles with unfriendly conditions, and that vast increase in population took place before the farther north was penetrated. We cannot conceive of men crossing the cold plateaus of Mongolia and Manchuria and entering Siberia without an artificial food supply, without fire, without clothing, and without implements of the chase, for it is here that he would encounter those frigid waves which for ages have swept southward from the Arctic circle.

The difficulties of migration would not end with the crossing of Bering strait. Tribes acclimated in Siberia would soon make a home in the valley of the Yukon, but beyond this, during the long glacial period, a vast ice sheet extended with occasional interruptions from the far north across the continent to the southwest, and ages must have elapsed before the pioneers of Asia's expanding population crossed this zone, reaching the valley of the Columbia. The spread from the Columbia to the east and south over middle America would be easier, but yet would not be accomplished in a day.

Diagram XV will aid in conveying a notion of the problems of migration under known conditions from an Old World cradle to the



XV. — Stages of migration in the peopling of America from tropical Asia.

New World by way of the arctic gateway, and in suggesting the cultural transformations that must have accompanied each step of the progress. In each successive environment from *A* to *G* man would come under the sway of new conditions, and at *G* there would probably not remain a single activity or a single article of food known at *A*. Supposing for example a stone age culture, language, social institutions, government, religion, and the arts and industries, would be subject to frequent and decided modifications and not a few, possibly nearly all, would suffer absolute extinction. Agriculture, pastoral life, modes of transportation, metallurgy, ceramics, building, textiles and the æsthetic arts one by one would drop into disuse,

passing little by little out of the knowledge of the northward migrating people, for there would be not only elimination of activities, but there would ensue quick forgettings. In one environment the preceding habitat in a few generations would be entirely forgotten, and the knowledge of an art lost for a generation is lost for good, for even the echoes of tradition in a few generations entirely disappear. The frigid zone knows not of the temperate and the temperate knows little of the tropical until after transportation is placed on an artificial basis.

In the present state of our knowledge of the history of man in America we cannot assume to dispose finally of the multitude of problems involved. It is most important, however, that the whole subject should be passed under review at frequent intervals, the data assembled and classified, the theories analyzed, and, if necessary, new hypotheses formulated. The anthropologist, however, cannot assume responsibility for the whole vast range of research involved; he must await the slow progress of biologic, geologic, and geographic science. The naturalist, the geologist, the geographer, the climatologist, the astronomer, the paleontologist, the somatologist, the psychologist, the anatomist, and the pathologist must come to the aid of the ethnologist and the archeologist before the history of the American race can be written.

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THE PENOBSCOT LANGUAGE OF MAINE

By J. DYNELEY PRINCE

VERY little material has appeared relating to the structure or vocabulary of the real Penobscot language of Maine, which is still spoken by some 350 persons, most of whom live at the Indian village of Oldtown on Penobscot River near Bangor, Me. In Pilling's "Bibliography of the Algonquian Languages" (1891), p. 392, a considerable list is given under the head "Penobscot," the most important of which works, however, do not apply to the Penobscot idiom but rather to the Abenaki language, now used for the most part by about 350 people at St Francis, near Pierreville, P. Q. Thus, the so-called Penobscot works of Peter Paul Wzokhilain are really in Canadian Abenaki, but the manuscript catechism of Démillier there noted is in genuine Penobscot, as is the Penobscot material not noted by Pilling in the "Indian Good Book" of Fr. Eugène Vetromile, S.J., (1856; 1858). The orthography of these two French writers on this language, however, makes a careful study of the idiom from a phonetic point of view extremely difficult.

In the *American Anthropologist*, N.S. IV (1902), pp. 17-32, I gave a brief but careful study, based upon personal work among the Indians, of the differentiation between Penobscot and the language of the Canadian Abenaki, as spoken today, pointing out in a table their chief phonetic differences (pp. 21-22), as well as their main points of grammatical variation (pp. 26-27). It will be observed that the French writers on Penobscot, particularly Vetromile, retain the nasal *an* = Abenaki *on*, while I was unable to place this sound in Penobscot, except in the word *münz* 'moose.' It is probable that the nasal is obsolescent in the Penobscot dialect of today, a parallel case to the change of the *r* to *l* in the present St Regis Iroquois dialect, a development which has also taken place, both in the Penobscot and the modern Abenaki idiom of Canada as com-

pared with the mother-tongue of both, the Old Abenaki given in Rasles, "A Dictionary of the Abenaki Language" (Pickering, 1833); and in Aubéry's much more extensive lexicon (cited by Gill, *Vieux Manuscrits Abenakis*, pp. 5 ff: pp. 11 ff).

The present paper, giving four stories, and phrases, recited by Indians, and a glossary of 376 Penobscot forms with grammatical commentary by myself, embodies the whole of my Penobscot material, which I have obtained orally from Penobscot Indians at Bar Harbor, Me., during the past ten years. As this, so far as I know, is the only large collection of Penobscot words and forms which has as yet been published, I trust that it may be of use to the student of the dying eastern Algonquian idioms. The Abenaki material herein contained is taken from my own manuscript dictionary of modern Abenaki, now almost completed, from oral Abenaki sources. On the Canadian Abenaki idiom, see my paper in *Miscellanea Linguistica in onore di Graziodio Ascoli*, Turin, 1901.

The pronunciation of the Indian words in this article is indicated as follows. All the consonants should be sounded as in English with the following exceptions. In Penobscot *ch* has the same value as in English, but in Abenaki it is often, although not invariably, pronounced as *ts*. Rasles always gives *ts*, *tz*, for modern *ch*, *j*. Similarly, we find Penobscot and English *j* identical, but the same consonant occasionally pronounced *ds* in Abenaki. Penobscot *g* is always hard. Abenaki *l* after *a*, *o*, *u*, has a sound like the Polish "barred *l*." The Penobscot and English *l* are the same, except in final syllables, when the Penobscot *l* is an almost inaudible lingual touch. In both dialects *ñ* is equivalent to the French nasal *n*, and the combinations *kh*, *ph*, are to be pronounced *k + h*, *p + h*, respectively. The inverted comma indicates a voice-stop, not unlike a soft 'Ayin. This common Algonquian sound is inadequately represented by the French writers by *k*. When *m* and *n* are written in juxtaposition to the following consonant, they have their own inherent indeterminate vowel: as *ndak* 'than.' The consonant *s* always has the hard sound, as in English 'mistake.' The Penobscot combination *sz* is a medial syllable, half-way between English *s* and *z*: i. e. it stands in about the same relation to each as does the Czech voiceless *t* to the English *t* and *d*. The *w* in *kw* is pronounced with a soft

whispering vowel following it. In both dialects the vowels have the Italian values, except Penobscot *â* = English *aw*; Penobscot *ä* = a very short *a*-sound; *ö* as in German, and the apostrophe, which represents a short indeterminate vowel, as in the Hebrew *Sh'va mobile*. Abenaki *ô* = French nasal *-on*. When two vowels are written together, as *aa*, they are pronounced separately with a hiatus. On the curious intonation of the Penobscot see Anthrop. IV., pp. 19-20.

My principal Penobscot teacher frequently varied in his usage, particularly in his change of *s* to *z* and *ch* to *j* after a vowel, occasionally altering his *s* and *ch* to *z* and *j* respectively, according to the usual eastern Algonic practice, but sometimes retaining the hard *s* and *ch*, even after a preceding vowel. His inconsistency, which I have also heard from other Penobscots, is faithfully reproduced in my phonetic rendering.

STORIES AND PHRASES

I

<i>Nāwad</i>	<i>āgua</i>	<i>G'loskā'be</i>	<i>ājimajephūgwe</i>	<i>K' dādenuk</i>
Long ago	once	Glooskap	started off	from Katahdin
<i>nizi</i>	<i>ūdēmizal</i>	<i>mūnzo</i>	<i>p' mīp' gwāladiji.</i>	<i>Wa spozā'kiwik</i>
along with	his dog,	a moose	he tracking.	On that morning
<i>tōkī'law' lidēdit</i>	<i>ālnōbak</i>	<i>ānami'tonō</i>	<i>wasali.</i>	<i>Ūd' labozinō.</i>
when they woke up,	the Indians,	they see	snow.	They went out (to look).
<i>Ūbenhlāwō</i>	<i>G'loskā'bul</i>	<i>yaga</i>	<i>ūdē'mizal.</i>	<i>Ūnami'tonō</i>
They tracked	Glooskap	and	his dog.	They see
<i>ūdāgima</i>	<i>yaga</i>	<i>ūdē'mizal</i>	<i>pemaptūi' lāwul' dē'git.</i>	
his snow-shoes	and	his dog	their tracks.	

II

<i>Nāwad</i>	<i>āgua</i>	<i>elē'k'za nī'kwop</i>	<i>kdadō'kē'owun.</i>	<i>Nagua</i>
Long ago	once	what happened, now	I will tell you.	Then
<i>ānadielina</i>	<i>k'chi p'maū'zowinnawak</i>	<i>yaga</i>	<i>āgwenissis'wal.</i>	
they went hunting	(some) old people	and	their grandchildren.	
<i>Wa'ka ali'law' l'dwa</i>	<i>kwāzibē'muk.</i>	<i>Ni wigiyl'dit.</i>	<i>We spozā'kiwik</i>	
Far they went up	a lake.	There they camped.	That morning	
<i>āmajē'lanō</i>	<i>k'chi p'maū'zowinnawak</i>	<i>nizi-nadadieli-na</i>	<i>yaga</i>	
they started off	did the old people,	together they went hunting	and	
<i>āgwuuznawī'gand</i>	<i>āgwenissis'wal</i>	<i>El' mogis'gā'kiwik</i>	<i>nowa</i>	
they kept camp,	did their grandchildren.	That forenoon	a certain	

skinōsis *ūgiō'zen* *k'wi'ji.* *Mālumte* *wāni'li.* *Wāka*
 lad went into the woods alone. Then he got lost. Far
w'béjowō'ze *wā'jōk* *Ūgat'gweni.* *We* *spozá'kiwik*
 he went into the mountain. He stayed all night. In the morning
tó'ki'lit *w'gliduhuz* *ūnā'mial* *wigawēszał* *sá'kwoszeliji.*
 when he woke up, he thought he saw his mother coming to him.
Ūā'li-wagūmā'len. *Ūdegeskwe'tahun* *wigawēszał.* *Niga* *ūwi'kwun'gun*
 He ran to her. He embraced her, his mother. Then she seized him;
ūmachephō'gun *wig'wō'mwok.* *We* *skinōsis* *ēyit* *nōg'jiphon.* *Anśá'kwa*
 she took him away home. That boy stayed all winter. This was
awēsos *alidahošsianban* *wigawēszał.* *Niga* *yūgik* *k'chi*
 a bear which he thought was his mother. Then these old
p'maū'zowinnawak *kwilawō'sēna* *peji'lādit.* *Kwilāw'hāwal*
 people were seeking him, when they returned. They sought
ūgwenissis'wul. *Medālage* *sōg'ni'gwuni* *ūgwulaw'hāwal.* *Ūmājē'lānō*
 their grandchild, Ten days long they sought him. They went
wig'wō'mok.
 home.

El'mi sigwan'wik *m'dēwleno* *abigiwō'set* *idam :*
 That Spring, a wizard, when he returned from hunting, said :
 " *Niach nuskāwō wunna skinōsis.*" *Niga* *k'chi* *p'maū'zowinnawak*
 "I will find that boy," Then the old people
pūdarwaš'na. *Mālumte* *giztumāwō.* *We* *spozá'kiwik* *alib'jidd'kon*
 came together. Then they decided. That morning they sent out
ūwa m'dēw'leno *yaga sibi nisinske sēnobāk.* *Mālumte* *n'māpedabāszidit*
 that wizard and also twenty men. Then when they arrived,
ūwa m'dēwleno idam : " *Senōbē'tuk* *wiw'nā'labaaduk* *wī'yu* *awēsos*
 that wizard said : "O men surround that bear
wigit. *Niach ndappodē'tūhū.*" *Niga* *k'hē'la.* *Niga m'dēwleno*
 where he lives. I will amash it in." Then thus it was. Then the wizard.
tāpp'kwudē'tehēmen *awēsos* *wigamikw.* *Niga* *awēsos* *sukhinodē'lun.*
 smashed in the bear's dwelling. Then the bear came out at him.
Ma nitte *ūgwildawō.* *Mālumte* *ūgwizibēskawan.* *Ūnī'lōnō.* *We*
 Right out he came at them. Then they shot him. They killed him. That
skinōsis *mājephutwe* *ādā'gwiphōwal* (*ugwisiz'kunāwal*). *Mājephōwal*
 boy he ran away ; they got him ; (they caught him). They took him
wig'wō'mwok. *Wa* *skinōsis* *agwāmi wānzō* (*d'kwāl'mo*) *ndak* *awēsos.*
 home. That boy more wild he was than a bear.

III

Niga nia bēs'godā kwasibē' muk nōchibō'zin noch'kawiyālgwun.
I once from a lake coming in a canoe started down.

Mālumte bissidō pechiālgwa pōntegok. Ni wig'ā. Mālumte
Then it got dark, when I arrived at the falls. There I camped. Then
ngisiadalogwī pia. Nōōzin. Nōji-enigokutah' gon skām' kw.
I ate (my supper) there. I got in the canoe. I was going (up) to spear salmon.

Mālumte bež'go namiō; n'ga nsāptahū'n. Niga eliw'kwōip'huk;
Then one I saw; then I struck him. Then I pulled him up;
n'ga elibau'skāsīt. N'ga nguā'wiphō'gon; n'ga N'māchegwichin
then he fought. Then he tipped me over; then I swim ashore

nspi-ngūllemen ndōl. Mālumte bedagwichina s'noji; ni mina
holding my canoe Then I got ashore; then again

ndebō'sun ndōluk. N'ga mina nd'libiyen. Mālumte mina
I got in my canoe. Then again I paddled over. So once more

n'muskawō mgekūmkwahum sukhamid ēbastē'gwū. N'ga
I found the pole, sticking up in the middle of the river. So

n'wi konan; n'ga ndebā'kun nāmēs. N'ga N'māchēlan
I took hold of it and drew in the fish. Then I went off

wigia. N'ga nd'babekhan. Wa skām'kw halif'kiwul
to where I camped. Then I weighed him. That salmon weighed

nsinske debū nan.
thirty and five.

IV

Niga nia bēs'godā nadadiāli wā'kachināl' muk. Yaga sibi
Once upon a time I went hunting away up the river. And late

n'mabech' lū n'wikkāsin. Mālumte g'zikasia. N'gpi-ndelō'sun;
there I arrived; I built a camp. Then I got it built. I go in the woods;

nō'mūnz-ē kan. Mālumte nber'la mūnz. Nosāoplun;
I go moose hunting. Then I saw tracks of moose. I follow tracks;

nbedopla mug'wā'kwuk. Nī dali ngisibē'sku niē'da.
I overtake him in a bog. There I shot him twice.

Nī mina nōsāoplun. Nī mina ndadim'kāwun. N'ga motū'd'gun.
Then I followed him again. Again I caught him. Then he fought (me).

Niga n'machephua. Nd-akuadawephue abassik. No-chibeshkhan
So I ran away. I climbed up in a tree. I shot him

ewē'bi. Mālumte nī'lōn.
from above. So I killed him.

V

PHRASES

N' nâmiô k' wuskinô sum w' lô' gwê', I saw your son-in-law yesterday.

Ni age ngizagê' kimgon Pawanobskewad' wun mewid' sis, Then he taught me a little Penobscot.

Ndâchweldâmen nân' gânuôô k'ê' wun k' d' lad' wewâgonêk, I want you to tell me stories in your language.

Ngizagê' kimzin Alesigontegwi alad' wewâ' gon Canada dali, I learned the Abenaki language in Canada.

Elwê' t' âltôgwût talâ' â gia k' d' lad' wewâgon, It certainly sounds pretty much like your language.

Niga nia k' dadô k'ê' otwun elê' mugwônbân bês' goda. Kê' t. Nda. Kê'ê' laga' k' t Now I will tell you what luck I had once. Yes. No. Really?

Niswick âdaltelâwul k' chi mûnzo wâ' ka Canada, My wife shot a big moose far up in Canada.

K' nâdiêli gia tagwâ' gwi yaga k' n' lô k' chi magâ' libo, You go hunting in the autumn and you kill a big caribou.

Wuliwâ' skwûdun bês'kowâdi, He knows very well how to use a gun.

Kê' kw k' d' liwizi t K' dilineppan eliwissian w' lô' gwê', naskua ngâwidahô' zin. What is your name? You told me your name yesterday, but I have forgotten it.

Mili ni wejân' manban w' lô' gwê'. Ndâchweldâmen nâ' nüksessik agwê' d' n. Give me the one I had yesterday. I want a light canoe.

Nbêchô' k' saneppan nchê' kwê', I came here this morning.

Ni kizâwê' kanban, That is the one I used.

Yuwa sênôbê' ûnâmiâl agua mûnzo, That man sees a moose.

Mûnz ûnâmiâl âinôbâl, The moose sees the Indian.

Wa sênôbê' ûnâmiâl widôbâl wijiâl, The man sees his friend's brother.

Kiabe Ewaô' tawi halig' lôlanê' elôd' wa, Can you understand me if I speak my language?

K' wâô' tâmen ni alôd' wa, You understand my language.

Ndabâji' lâch mîdalage sêchi' lagi, I will return at ten o'clock.

T' menok ndabâji' lû, Soon I will return.

Wisand' gaxi mejibe p' chi-uligen. Nia n' wiza' ka. Hurry up if you please. I am in a hurry.

Nia ni. Kia ni. Nêgumaga ni. That is for me. That is for you. That is for him.

Nêguma ndâsimukw nia, He is talking about me.

Yû' gik (nû' gik) sênôbâk, These (those) men.

PENOBSCOT GLOSSARY

Abassi 'tree' = A. *ābazi*. Pl. *abaszik*.

Abaznoda 'basket' = A. *abaznoda*, connected with $\sqrt{abaz(s)}$ 'wood' in *abassi*.

Abi 'sit'; imper., from \sqrt{ab} = A. *abi*.

Abigiwo'set 'when he returns from hunting'; contains $\sqrt{ab(i)}$, particle seen in A. *āb*, in A. *āb-adaliowak* 'when they finish hunting,' + *kiwo'se*, for which cf. s. v. *ugiō'sen* 'he goes to the woods' + participial *-t*.

Achimowāgon 'story' = A. *ōjmorowāgon* 'history.' Cf. A. *wā-āhōkawōjmorowāgonowō* 'their traditions.' Pen. \sqrt{achim} = A. $\sqrt{ōjm}$ 'relate.'

Agua, intercalary particle 'indeed'; like *age*, q. v., commonly used with *nāwad*, but cf. also; *unāmial agua mūnzo* 'he sees a moose' = A. *agua*.

Age, with *ni*; *ni age* 'then' = *agua*, q. v.

Agwami 'more,' in comparison, as *agwami* ... *ndak* 'more ... than.'

Agwed'n 'canoe,' really = Passamaquoddy *kwedun*; in A. and also in Pen. *wigwaol* 'bark canoe'; cf. s. v. *ndōl*.

A' kwal' mo 'he is wild' = A. $\sqrt{a' kwal}$ in *a'kwalmijik* 'those who hate me.' The *o* ending is 3 p.

Alad'wewāgon 'language'; *al*, relative prefix, + \sqrt{aduwe} 'speak' + abstract *-wāgon*. Cf. s. v. *k'd'lad'wewāgonēk*.

Alemūs 'dog.' See s. v. *ud'ēmizal*; pl. *alemozak* = A. *alemos*; P. *u'lmūs*.

Alēsīgōntegok 'Pierreville,' in P. Q., Canada (see just below). Here, with loc. *-ok*.

Alēsīgōntegwī 'Abenaki,' really an adjective from A. *Alsīgontegw*, the Abenaki name for Pierreville in P. Q., Canada, the headquarters of the modern Canadian Abenaki; = 'river of empty habitations.' It was *arsikantekw* in old Abenaki, from *arsi* 'empty' + *-kan* 'dwelling' + *tekw*, suffix = 'river.' Cf. Prince, *Miscellanea Linguistica in onore di Graziodio Ascoli*, 1901, p. 3, note.

Alib'jidākon 'one sends him out'; relative *ali* + *pejida* 'send' + *kon*, 3 p.

Alidahōszianban 'the one which he thought'; $\sqrt{(l)idahōs}$, seen in *w'glidahuss*; (*k*)*lidakus* 'think' + *ian*, partic. 3 p., + *ban*, past ending.

Ali'lawī'dwa 'when they looked for him'; *ali* particle of time, really relative, + \sqrt{hlaw} 'go to seek' + partic. *l'd* = *lit* + 3 p. *-wa*.

Alnōbak 'Indians,' with anim. pl. *-k*. Cf. s. v. *alnōbe*.

Alnōbal 'Indian,' with obviative *-l*. See next.

Alnôbe 'Indian,' same stem as in Delaware *Lenâpe*; i. e., $\sqrt{p'n}$ 'man' + *âpe*, *âbe* 'one who stands erect,' as distinct from the animals. Cf. A. *alnôba*.

Alôd'wa 'my language,' variant of *elôd'wa*. Cf. s. v. *k'd'lad'wewâgon*, *alad'wewâgon*.

Alôd'wan 'your language'; relative *al(i)* + $\sqrt{o(a)duwe}$ 'speak' + 2 p. (*w*)*an*; lit. 'what you speak.' The same analysis applies to *alôd'wa*, *elôd'wa*.

Altôgwut 'it sounds'; *altôgw* 'sound,' as A. *altôgwadokaik* 'they noise abroad' + partic. 3 p. -*ut*.

Ansd'kua 'this was, behold!' A particle of asseveration.

Awas 'animal' = A. *awaas*.

Aweni 'who?' = A. *awani*?

Awenil, obviative of *aweni*.

Awenoch 'white man' = A. *awanoch*. Derivation uncertain.

Awôsos 'bear' = A. *awasos*.

B

Bes'goda = *pez'goda* with *b* after preceding vowel; 'once.' Cf. A. *pazego* 'one.'

Bes'go = *pez'go* 'one' = A. *pazego*. See just above.

Beskowadi, for *peskowadi* with *b* after preceding vowel 'how he (she) is to shoot'; \sqrt{pesk} 'shoot' + 3 p. partic. (*w*)*at* + obv. *i*.

Bissidô = *pisidô* (*b* for *p* after prec. vowel): 'it gets dark'; \sqrt{pis} = A. \sqrt{pez} in *pis'gwiwi* 'in the dark'; A. *pezgatangwezzo* 'it got dark' + partic. *d* = *t* + *ô*, 3 p.

D

Dali 'at, near'; see s. v. *ni dali*.

Debu 'and' = *tebu*, with *d* for *t* after prec. vowel = A. *tabu* (*ta* asseverative + *ba* here = 'indeed').

E

Ebast'gwi 'across the river'; *ebas* = *awas* (A.) 'over,' occurring in A. *awasadenek* 'over the hill' + *tegw* 'river' = A. *tukw*.

Edali, relative = A. *adali*.

Elé'kza 'that which happened'; *ele*, relative, allied to *ali* + \sqrt{kz} 'do, make' + pronominal -*a*; lit. 'that which was done.'

Elé'mugwonban 'what luck he had'; *el*, relative, as above = *ali* + *el*. abbrev. for *uli* 'good' + 3 p. inan. -*mugw* + partic. *on* + *ban*, sign of past. Cf. A. *nôlalmegwga* 'I am lucky'; *k'dôlalmegon* 'what luck did you have?'

Elibau'skasit 'he struggled,' said, for ex., of a fish; rel. *eli* + $\sqrt{pau'sk}$, perhaps cognate with Pen. \sqrt{pesk} = A. \sqrt{pask} 'strike, shoot' (cf. s. v. *ugwizibetskawan*) + *s(i)* reflexive + partic. 3 p. -*it*.

Elwi kwiphuk 'I pull him up'; really a participle; *eli*, relative element + $\sqrt{wi'k}$ 'pull' + $\sqrt{wi'p}$, denoting 'away, from,' as in *majephue* 'he runs away,' q. v., + *uk*, 3 p. object. Cf. s. v. *n'wi konan*.

Elwiszian 'your name'; *eli*, rel., + $\sqrt{wis(i)}$ 'call' + -*an*, 2 p. partic.; lit. 'what you are called.' Cf. s. v. *k'd'eliwizi*.

El'mi, particle of temporal duration = 'during,' as *el'mi siguan'wik* 'in the Spring'; = A. *almi*.

El'mogiz'ga'kiwik 'on that forenoon'; *el'mo*, particle of time when, + *k(g)iz(i)* 'day' + (*k*)*a'kw* 'morning,' same root as in *spos'd'kw* 'morning,' q. v.

Elod'wa 'my language'; rel. *el* + $\sqrt{oduwa(e)}$ 'speak' + 1 p. ending -*a*; lit. 'that which I speak.' See s. v. *alod'wa*.

Elwet 'certainly, it must be so,' probably = A. *alwa d'to* 'it is nearly like that.' Cf. s. v. *kel't*, *keh'lag'd'k*.

Ew'ebi 'above'; *ewe*, perhaps cognate with A. *awa(s)* 'over,' in A. *awasaden* 'over the hill.' Cf. s. v. *ebast'gw*.

Eydit 'where they are,' pl. of *zyit*, q. v., and see *k'daiyin*.

Eyit 'he being, staying'; singular of *eydit* above; \sqrt{ai} , *e* with 3 p. ending -*it*; A. *w'd-ai-(y)in* 'he is.' See s. v. *k'daiyin*.

G

Gia 'thou' = *kia*, with *g* for *k* after prec. vowel.

Giztumawō 'they decide'; *kizi* 'can, accomplish, do' + inan. -*tum* + 3 p. pl. (*a wō* = A. *kiztōzik* 'one who decides'). Note that *kizi'to* = 'he does, makes.'

G'loskābe, with *g* for *k* = *K'loskābe* 'the deceiver,' Pen. form of Pass. *Kulōskap*, the eastern Algonquian demi-god. Cf. Leland and Prince, *Kulōskap the Master*, Funk and Wagnalls, New York, 1902.

Gwuni, for *kwuni* 'during,' from *kweni* 'long' = A. *kweni* 'long.'

G'zikasia 'I got it built'; *kizi*, past sign + \sqrt{kasi} 'make, construct,' as in *n'wikkasin*, q. v., + 1 p. partic. -*ia*.

H

Haaso 'horse,' with obv. -*o*; pl. *haaswuk* = A. *ases*, but A. *ndaasom* 'my horse.'

Halig'ldlane 'if I speak'; *hali* = relative *ali* + $\sqrt{k'lol}$ 'speak,' really $\sqrt{k'l}$ with reduplicated *l* + 1 p. -*an* + conditional -*e*.

Halit'kiwul 'he weighed'; lit. 'he was heavy'; *halī* = rel. *ali* + $\sqrt{i'ki}$ = A. *i'kwigui* 'heavy'; A. *i'kwiguan* 'a pound + obv. (w)-ul.

I

Idam 'he says'; \sqrt{i} 'say' + inan. indef. -*dam*.

K

Kadawsande 'Saturday'; lit. 'before Sunday'; *kadaw* 'before' + *sande* 'Sunday'; = A. *Kadawsandaga*.

Kadeskik 'Bangor,' with loc. -*k*.

Kadi 'wish,' used for future; cf. *ngadi-giwibiasi*.

Kamach 'very'; *kamach awas wanzo* 'very is the animal wild'; = A. *kamōji*.

Kaos(z) 'cow' = A. *kaoz*. In borrowing Eng. words these idioms seem to prefer the plural; cf. A. *piks* 'pig'; *ases* 'horse' (from Eng. pl. *horses*).

K'chī 'big' = Pass. and A. *k'chī*. See s. v. *k'dadenuk*.

K'dadenuk 'Katahdin,' with loc. -*k*; = 'big mountain'; \sqrt{kt} 'big,' same element as in *k'chī* + interc. -*d* + *aden* 'mountain' + loc. -(u)*k*.

K'dadōkēowun 'I tell thee'; *k*, 2 p., + interc. -*d* + *adōka* 'tell' (the element \sqrt{ado} is seen in *adūwe* 'speak') + 1 p. -(w)*un* = A. *k'dōdokawoi* 'I tell thee,' from A. *ōdōka* 'speak'; cf. *ndadōkēowun* and note A. *w'delōdokawon*, 3 p. Cf. also s. v. *nan'ganudōkēowun*.

K'daiyin 'you stay, are'; *k*, 2 p., + interc. -*d* + \sqrt{ai} 'stay' + the indef. -(y)*in*. Cf. s. v. *ēyit*, *ēyidit*.

K'dalokewāg'n 'thy work'; *k*, 2 p., + interc. -*d* + \sqrt{aloka} 'work' + abstract -*wāg'n*.

K'dihlel 'I tell thee'; *k*, 2 p., + interc. -*d* + \sqrt{iht} 'tell,' an amplification of the simpler \sqrt{i} 'say' (see s. v. *idam*) + *el*, suffix 1 p.

K'di lineppan 'you told me'; *k*, 2 p., + interc. -*d* + $\sqrt{i'l}$ 'tell,' as just above, and see s. v. *idam* + *in*, 1 p. object, + connecting -*e*(*p*) + past *pan* (see s. v. *elēl' mugwonban*). The same *i'l*-stem is seen in A. *k'dilloob* 'I told thee,' with past sign -*ob*.

K'd'lad'wewāgonek 'in thy language'; *k*, 2 p., + interc. -*d* + relat. *l* as in *ali* + *aduwe* 'speak' (cf. s. v. *alad'wewāgon*) + abstr. -*wāgon*. In A. *k'd'lodwāōnganik*.

K'd'liwizi 'thy name'; lit. 'what thou callest thyself'; *k*, 2 p., + interc. -*d* + rel. *eli* = *ali* + $\sqrt{wis(i)}$; cf. *eliwisizian*.

Kēgues 'what'; see s. v. *kēkw*; = A. *kagui*, *kagwes*.

Kehēlagāk 'really, surely,' an augment of *kelēt*; *kehēl* = *kēl* + the interr. -*ga* + inan. particle -*k*.

Kékw 'what' = A. *kagui*; see s. v. *kékwes*.

Kelét 'yes, assuredly' = A. *kala d'to*.

Ken'we 'but' = A. *kanowa*.

Keswak 'how many?'; with pl. anim. *-(w)ak*; = A. *kaswak*.

Kia ni 'that is for thee.' On *kia*, see s. v. *gia*. *Kia* is regarded as a cognate accusative: 'that is with respect to you' (thee).

Kiabe 'thou,' with intensive-*be*, sometimes conditional; = A. *kiatta*.

Kil'wa 'you' (pl.) = A. *kil'wô*.

Kissande 'Monday'; lit. 'after Sunday'; *kis* = *kizi* 'after'; A. *kissandaga*.

Kiū'na 'we' (inclusive of the person addressed) = A. *kiūna*. See s. v. *niūna*.

Kizawé kanban 'the one I used'; *kiz(i)* = past sign 'after' + *√awéka* 'use' = A. *awéka* + *an*, 1 p. partic., + past *ban*. See s. v. *k'dilineppan*.

Kizi-awenôch-wad'wi 'he can talk English'; *kizi* 'he can' + *awenôch* 'white man,' q. v., + connecting *-w-* + *√aduwe* 'speak' + *i*, 3 p.

Kizi'to 'he makes, does.' Cf. s. v. *k'm'salig'zi'toba*.

K'madeg'n'l 'thy skins'; *k*, 2 p., + *madeg'n* 'skin' + inan. pl. *-(u)l*. Cf. A. *madagen*, 'skin' which takes anim. pl. *-ôk*.

K'm'salig'zi'toba mōni 'thou makest much money'; *k*, 2 p., + *m'sal* 'much' + *kizi* 'to make,' with inan. ending *-to* + cond. *-ba*. Cf. s. v. *mis'gi*.

K'nadieli 'thou huntest'; *k*, 2 p., + *√(n)adieli* 'hunt'; cf. *unadielina*. See just below.

K'nadieli'b'na 'we (inclus.) hunt'; *k*, 1 and 2 p., + *√(n)adieli* 'hunt' + *b'na*, 1 p. pl. suffix. See s. v. *n'nadieli'b'na*.

K'namiogōna 'he sees us' (inclus.) = A. *k'namiogonna*; *k* 1 and 2 p., + *√nam* 'see' + *(o)gona*, 3 p. suffix.

K'ni'lō 'thou dost kill'; *k*, 2 p., + *√ni'l* 'kill,' really = 'fell,' + 3 p. *ô*. Cf. s. v. *ni'lōn*.

K'waô'tamen 'thou dost understand it'; *k*, 2 p., + *√waô'(ta)* 'understand' + def. inanim. *-men*. See just below.

K'waô'tawi 'thou dost understand me'; *k*, 2 p., + *√waô'(ta)* 'understand' + 1 p. objective suffix *(w)i*.

K'waô'tol 'I understand thee'; *k*, 2 p. object, + *√waô'(ta)* 'understand' + 1 p. subject *-ol*.

Kwasibemuk 'at the lake'; *kwasibe* 'lake,' probably means 'rocky' (*kwazi*) + *be* 'water,' seen in *nebi* 'water,' q. v., + *m(uk)*, locative.

The A. word for 'lake' is usually *nebes* 'body of water' = *nebi*. *Kwazibe* is formed like Pass. *kúspem* 'lake.'

K'wigi 'thou livest, dwellest'; *k*, 2 p., + $\sqrt{\text{wig}}$ 'live, dwell'; = A. *k'wigin*. Cf. *wigia*, *wigi'yidit*, *wig'wómwok*.

K'wi'ji 'alone' = A. *ngichiwi* 'alone.'

Kwilaw'hawal 'they seek him' (them); $\sqrt{\text{kwilawa}}$ 'seek' + obv. *-(w)al*. Cf. s. v. *kwilaw'séna*, *ugwildawō*.

Kwilaw'séna 'they are seeking him'; $\sqrt{\text{kwilawa}}$ 'seek' + element $\sqrt{\text{se}}$ 'go,' seen in A. *elosá* 'go' + pl. *-na*. Cf. s. v. *ugwulaw'hawal*.

Kwuni 'during'; see s. v. *gwuni*.

K'wuskinōsum 'thy son-in-law'; *k*, 2 p., + *wuskinōs* 'young man' + poss. *-um*. See s. v. *skinōsis*.

M

Ma nitte 'then.' *Ma* asseverative particle + *nitte* = demonstrative *ni* + asseverative *te*. Perhaps *ma nitte* means 'indeed.'

Madaweso 'porcupine.'

Magalibo 'caribou' = A. *magôlibo*. The obv. form ends in *-al*.

Majephue 'he runs away'; $\sqrt{\text{maji}}$ 'go' + $\sqrt{\text{ph}}$ -root 'away, from.' Cf. s. v. *umajephōgon*, *majephowul*, and for the *ph*-root s. v. *uda 'gwi-phowal*.

Majephowul 'they take him away'; $\sqrt{\text{maj}}$ + *ph*-root 'away,' as above, + obv. 3 p. *-(w)ul*. See s. v. *majephue*, *umajephōgon*.

Majich = 3 p. imper. 'let him go'; $\sqrt{\text{maj}}$ 'go' + *(i)ch* = the imper. ending, probably identical with the future *-ch* (A. *-ji*).

Malumte 'then'; common Pass. resumptive.

Maskwulamiyiltjil 'he (obv.) calling'; $\sqrt{\text{maskwulam}}$ 'call,' Pass. + *(y)iltjil*, participial obviative.

Mał nagwouk 'Lincoln' = 'large hills.'

Mdewi'lé loon = A. *mdawī la*. Probably means 'the calling one,' from $\sqrt{\text{hla}}$ 'call,' seen in Old Aben. $\sqrt{\text{rwe}}$, in *ukanganrwe* 'je crie,' Rasles, p. 424. The Canadian French word *huart* 'loon' = 'the shrieker,' from *huer*, is, no doubt, a translation of this word.

M'dewlino 'wizard,' lit. 'one who drums' = A. *m'daulino*. The stem $\sqrt{\text{ol}}$ or $\sqrt{\text{el}}$ appears in mod. A. *pakhōligan* 'drum.'

Mechimi 'always' = A. *majimitwi*.

Medala 'ten' = A. *m'dala*; Pass. *m'tul'n*.

Medalage, same as above, with durative particle *-ge*.

Mejibe p'chi ulig'n 'if you please'; probably means lit. 'if perchance it is good'; *meji* (*mechi*) + the cond. *-be* (A. *ba*) denotes condition, and *p'chi* = continued action + *ulig'n* 'good,' with inan. *-g'n*.

Mēmādā kāmīōguk 'Princeton, Me.' = 'point of land.'

Mewiā'sis 'a little' = A. *maōwi* 'rather' + dim. *-sis*.

M'gekūmkwahum 'pole.' I am inclined to connect this with the root of *migā'ka* 'fight' = 'weapon' (?).

M'i'k'mak 'Micmacs.'

Mili 'give me'; \sqrt{mil} 'give' + 1 p. obj. *-i*.

Mina 'again' = A. *mina*.

Mis'gi 'many a one,' same stem as in A. *ms-ał*, denoting multitude. Cf. s. v. *k'm'salig'zi'toba*; *m'selōk*.

Mitāgues 'father' = A. *mitōgues*; Pass. *mitaukwis* = 'the producer' from the same stem as Nat. *okasu* 'produce' (cf. s. v. *wigawesel*).

Mitsi 'eat' = A. *mitsi*.

M'kasewagamek 'Black Lake'; *m'kase* 'black' + *gam* 'lake' + loc. *ek*. The A. has the common ending *-ōgama(k)* to denote lake = Ojibwe *-gummi*, *gami* 'sea.'

Mōni 'money' = Eng. 'money.'

Motuōgun 'he fights, struggles with me'; for *n'motuōgun*; *n*, 1 p. obj., + *m*, asseverative particle, + \sqrt{ot} 'fight' = A. \sqrt{awt} in *awdoldamuk* 'one fights,' *awut'wōgan* 'a fight, war' + connecting *ua (wa)* + *gun* 3 p. subject.

M'selōk (pl.) 'many' = A. *msalōk*. Cf. s. v. *mis'gi* and *k'm'salig'zi'toba*.

Mug'wākwuk 'bog'; *mug'wākw* 'bog, swamp' + loc. *(u)k* = A. *mū'kwā'kw*.

Mūnz 'moose' = A. *mōz*, Pass. *mūs*.

Mūnzo, ob. with *-o*, of *mūnz*.

Muskwesō 'porcupine.'

N

Nachigadōnkak 'they go hunting'; apparently a Pass. form (see Prince, Anthropol. N. S. IV. p. 31). The root *-onk* appears also in A. *ngadōnkan* 'I hunt.' See s. v. *nb'mūnzōkan*.

Nadodił'lin 'that I hunt,' reduplicated participle from $\sqrt{(n)adieli}$ 'hunt' + partic. 1 p. *-in*.

Nadadiālī 'I go hunting'; partic. reduplicated from $\sqrt{(n)adieli}$ + 1 p. *-i*. Cf. s. v. *unadieli'na*.

Nadadielīna 'they go hunting'; reduplicated from $\sqrt{(n)adieli}$, with pl. *-ina*. Cf. s. v. *unadieli'na* and *nadadiālī*; *nizi*.

Nagua 'then'; dem. *n* + *agua*, q. v.

Namiō 'I see him,' for *n'namiō*; *n*, 1 p., + \sqrt{nam} 'see' + *ō*, 3 p. object; = A. *n'namihōn*.

Namĩ toneppan 'I saw it'; *n*, 1 p. assimilated to root $\sqrt{\text{nam}}$ 'see,' + inan. indef. *-ton* + past *pan*; = A. *n'namĩ tonob*.

Namiũk 'I see them' = *n'namĩũk*; *n*, 1 p., + $\sqrt{\text{nam}}$ 'see' + 3 p. obj. *-ũk*; = A. *n'namĩũk*.

Namiukw 'he sees me' = *n'namĩukw*; *n*, 1 p. obj., + $\sqrt{\text{nam}}$ 'see' + 3 p. subj. *ukw*; = A. *n'namĩũk*.

Nan 'five' = A. *nan*.

Nan'ganudũ k'ẽwun 'that you should tell me tales'; *na* = reduplication of *n*, 1 p., + *n*, 1 p. object = 'to me' + *gan*, infix, perhaps denoting continued action, + $\sqrt{\text{odoke}}$ 'tell' + 2 p. participial *-(w)-un*. Cf. s. v. *k'dadũ k'ẽwun*.

Nanonkaw 'fifteen' = A. *nũnũnkaw*.

Na'nuksẽssik 'a light one' (inan.); cf. A. *nanũksussin* 'it is light.' Reduplicated stem $\sqrt{\text{nuksẽss}}$ + inan. *-ik*.

Na's 'three' + A. *na's*.

Naskua 'but'; dem. *n* (seen in *nĩ*) + *askua* 'still, yet,' q. v.

Nãwad for *nãwãt* with *d* after prec. vowel = A. *nãwat* 'long ago.'

Nbechũ k'saneppan 'I came here'; *n*, 1 p., + $\sqrt{\text{pechũ}}$ = A. *paji* in *pajihlũmũk* 'one comes to' + $\sqrt{\text{ks}}$ may contain $\sqrt{\text{kiz}}$ 'do, accomplish' and connote activity + participial (?) *-an* + connecting *e(p)* + past sign *-pan*. Cf. s. v. *n'mã-bechĩ lu* = *n'mã-bechũ se*.

Nbedopla 'I overtake'; *n*, 1 p., + *pedopla*, with 3 p. sfx. *-a*. The stem $\sqrt{\text{ped}}$ is the same element 'coming, moving toward,' as in *n'mã-peda-basidit*, *pedagwichina*.

Nbemiwigadiẽlin 'I prefer to hunt'; *n*, 1 p., + *pemi* 'more' + $\sqrt{\text{wig}}$ 'like' + $\sqrt{\text{adieli}}$ 'hunt' + indef. *-n*. Cf. s. v. *nãdadieli*, *unadieli'na*, *nizinadadieli'na*, *k'nadieli*, *k'nadieli'na*, *nãdadieli'na*.

N'benĩ la 'I see tracks'; *n*, 1 p., + $\sqrt{\text{penĩ la}}$ 'see tracks,' as in *uben-hlawũ*, q. v.

Nb'mũnzũ kan 'I go moose-hunting'; *n*, 1 p., + *b* here, possibly abbreviation for the particle of intention *p'mi*, *pami*, coalesced with *mũnz* 'moose' + *ũkan* 'hunt' (only in endings, as A. *-ũkan*). See s. v. *nãchigadũnkak*.

Nbũzin 'I embark'; *n*, 1 p., + $\sqrt{\text{pũz}}$ 'go ahead' + indef. *-in*. Cf. *Nũchibũzin*.

Nchẽ kwe 'this morning' = A. *chã kua*. The temporal *-we* (A. *-ua*) appears in Pen. *w'ũgwe* = A. *ulũgwa*, q. v.

Nĩda 'not, no' = A. *ũda* = Old Aben. *aũta*.

Nĩdabaji'lach 'I will return'; *n*, 1 p., + *-da* = *ta*, intensive, + $\sqrt{\text{paji'la}}$ 'come back' + fut. *-ch*. Cf. *nĩdendabaji'lach*.

Ndachweldamen 'I want it' (def.); *n*, 1 p., + *-da-* as above + $\sqrt{\text{achwel}}$ 'wish, desire' = A. *achowal* + def. inan. *-damen*; = A. *ndachowaldamen*.

Ndach'wialose 'I must go'; *n*, 1 p., + interc. *-d-* before vowel + *achwo* 'must,' connected with *ach'wel* 'desire,' + *alose* 'go'; = A. *ndachowilosa*.

Ndadimi'kawun 'I catch him'; *n*, 1 p., + interc. *-d-* + *adimi'ka* 'catch' + 3 p. sfx. *-(w)un*; = A. *ndadimi'kawon*.

Ndak 'than'; contains neg. *nda* + particle *-k*; lit. 'not even.' In A. *ôdaki* = *ôda* 'not' + *ki* 'than.'

Ndakuadephue 'I climb up'; *n*, 1 p., + interc. *-d-* + $\sqrt{\text{akuad}}$, probably = A. *agu*, in *nd-agun-alôbena* 'we go up'; A. *agudai* 'above' + final *ph*-root, denoting 'away, from,' as in *n'machephuwe*.

Ndaligizagé kimgon 'he teaches it to me there'; *n*, 1 p., + *dali* = *tali* = loc. particle 'there' + *gis* past-sign + $\sqrt{\text{agé kim}}$ 'teach, learn' + 3 p. subj. *-gon*. Cf. s. v. *ngizagé kimgon*.

Ndappodé' tuhu 'I smash it in'; *n*, 1 p., + $\sqrt{\text{tappodé}}$ 'break' + *tuhu* inan. suffix. Cf. s. v. *tapp'kwudé'tehëmen*.

Ndasimukw 'he is talking about me'; *n*, 1 p. obj., + $\sqrt{\text{asi}}$ 'talk' + 3 p. subj. *-mukw*.

Nd'babekhan 'I weigh him'; lit. 'I hold him flat'; *n*, 1 p., + interc. *-d-* + $\sqrt{\text{ababek}}$, stem as in A. *abakw-ôgan* 'flat surface, roof'; *tebôbakhigan* 'weighing scales'; i. e., two flat surfaces + (*h*)*an* = def. anim. suffix. I connect $\sqrt{\text{ababek}}$ with A. *abagi* 'flat,' seen in *abagiwi w'lejiwôl* 'the palms of the hands'; *abagi-gen* 'it is flat,' etc.

Ndeba'kun 'I draw it in'; *n*, 1 p., + $\sqrt{\text{teba'k}}$ 'throw in' = A. *w'dabakan* 'he casts'; A. *tabakajik* 'those who cast in nets,' pl. partic. 3 p., + anim. sfx. *-un*.

Ndebo'sun 'I get into, embark'; *n*, 1 p., + *de* = *te*, intensive, resumptive + $\sqrt{\text{pöz}}$ 'go towards' (cf. s. v. *nbôzin*) + indef. *-un*.

Ndendabaji'lach 'I will return'; *n*, 1 p., + interc. *-d-* + particle *enda* perhaps = duration or intention + $\sqrt{\text{paji'la}}$ + fut. *-ch*. Cf. s. v. *ndabaji'lach*.

Nd'libiyen 'I paddle over'; *n*, 1 p., + interc. *-d-* + $\sqrt{\text{elibi}}$ 'paddle, row'; = A. *ôndolibiamuk* 'one paddles' + indef. *-en*.

Ndôl 'my canoe'; *n*, 1 p. poss., + interc. *-d-* + $\sqrt{\text{ol}}$ 'canoe,' seen in A. *wigwaol* 'bark canoe'; cf. s. v. *agwed'n*. With the loc. = *ndôluk* 'in my canoe.'

Nebi 'water' = A. *nebi*; Ojibwë *nipi*. In Pass. = *samaguan*, as in Micmac.

Nê'guma 'he, she, it' = A. *ag'ma* = Pass. *nê'gum*.

Negūmāga ni 'that is for him'; for construction, see s. v. *nia ni*.

Negumwa 'they' = A. *ag'mōwō*.

N'ga; abbrev. for *niga*, q. v.

Ngademajehol'ge 'I go in a steam-boat'; *n*, 1 p., + *kadi* = intention + \sqrt{maje} 'go' + (*h*)*ol'ge*, seen in A. *mōjahlog* 'it (the steamer) starts = \sqrt{hl} 'run.' The *-ge* is probably conditional = A. *-ga*.

Ngādiwibiāsi 'I go in a canoe'; *n*, 1 p., + *kadi* = intention + \sqrt{wibi} containing same element *ibi* as A. *pamibiamuk* 'paddle' + *asi* (?).

Ngawidahōzin 'I forget it'; *n*, 1 p., + *gawi* (*kawi*) 'sleep, oblivion' + *id* 'think,' as in *alidahōsziankan*, q. v., + reflex. (*ō*)*z* + indef. *in*; lit., I 'think it in oblivion.'

Ngizagē kimgon 'he taught it to me'; *n*, 1 p., + past sign *giz* = *kizi* + *agē kim* 'teach, learn,' itself a reduplication of \sqrt{kim} 'teach,' seen in A. *kimzowi awighigan* 'learning book, primer' + 3 p. subj. *-gon*. Cf. s. v. *ngizagē kimzin*.

Ngizagē kimzin 'I learned it'; *n*, 1 p., + past sign *giz* + *agē kim*, as above + reflex. *z* + indef. (*i*)*n*.

Ngiziadalogwī pia 'I ate supper there' *n*, 1 p., + *gizi*, past sign, + \sqrt{adal} , place where, as in A. *adal-adialimuk* 'hunting ground.' The last part, *-gwi pia*, contains two known roots \sqrt{wi} and \sqrt{pi} = 'eat,' both seen in A. *nbaskwaipi* 'I eat dinner'; for \sqrt{pi} , cf. also A. *ōpchīpīt* 'while he eats.'

Ngizibēskū 'I shot him'; *n*, 1 p., + *giz*, past sign + \sqrt{pesk} 'shoot' + *ū*, 3 p. object. See s. v. *ugwizibēskawan*; *nōjibeskhan*.

Ng'pi-ndelōsun 'I go in the woods'; *n*, 1 p., + *g'pi* = A. *kpi-wi* 'in the woods' + *n*, 1 p., + interc. *-d-* + *elosu* 'go' = A. *elosa* + indef. *-n* = A. *ndelosan* 'I go.' See s. v. *ūgōō sen*.

Ngud'wiphōgon 'he tips me over'; *n*, 1 p. obj., + *gud*, prob. *kadi* = element denoting intention (see s. v. *ngadiwibiāsi*), + \sqrt{wip} , root denoting 'fromness, awayness' + 3 p. subj. (*h*)*ōgon*.

Ngūllemen 'I hold it'; in the comb. *nspi-ngūllemen* (cf. s. v. *nspi*); *n*, 1 p., + \sqrt{kul} 'hold,' seen in reduplicated A. form *kagal'men* 'he holds it'; A. *kagalmōmuk* 'one holds it.'

Ni 'that, then' = A. *ni*. Cf. s. v. *nigik*.

Nia 'I' = A. *nia* = Pass. *ni*.

Nia ni 'that is for me'; as in *kia ni*.

Niach 'I' + future *-ch*. = A. *niaji*.

Ni dali 'there' = dem. *ni* + *tali* 'at.'

Nidābe 'my friend'; *n*, 1 p., + *idābe*; cf. s. v. *widābe*.

Nidābē tuk 'my friends,' with voc. *-tuk* = A. *nidōbamfok*.

Niga 'then' = dem. *ni* + cond. *-ga*.

Nigidawagámek 'Forked Lake' = A. *Nigidawōgamak* (cf. Prince, Jour. Amer. Folklore, 1901, p. 126).

Nigik 'those,' pl. of *ni*.

Ni kwop now = A. *nī kwōbi*.

Ni lōn 'I kill him'; for *n'ni lōn*; *n*, 1 p., + \sqrt{ni} 'kill' + 3 p. obj. *ōn*. The final *-n* here is unusual. Cf. s. v. *k'ni lō, uni lōnō*.

Nis 'two'; pl. *niz'wak* = A. *nīs*.

Nisdalokan 'Tuesday' = the second working day; \sqrt{aloka} 'work'; A. *nizda-alokan*.

Nisinske 'twenty' = A. *nīsinska*.

Nisonkaw 'twelve' = A. *nizōukaw*.

Niswick 'my wife' = *n'niswick*; *n*, 1 p., + *nīs* = *nizi* 'together with,' q. v., + the stem \sqrt{wi} 'live,' as in *wigamikw*, q. v., + partic. *-ek*; lit. 'the one who lives with.'

Niū'na 'we'; exclusive (see s. v. *kiū'na*).

Niz'da 'twice' = A. *niz'da*; cf. *nīs*, *nizi*.

Nizi 'together with' = *nīs* 'two'; as in *nizinaadiellua*; see s. v. *nadadiell'na*.

N'mā-bechī'lu 'there I arrived,' participial; *n'mā* = place where + *pechī'lu* = A. *pajihlōmuk* 'come to,' from *paji* = direction towards + \sqrt{hl} 'run, go'; the *-u* in *pechī'lu* is probably the 1 p. participial vowel, usually *-a*.

N'mā-bechō'se 'he comes up'; *n'mā* = place where + *pech* 'come' + element *ō'se* 'go'; cf. s. v. *nbechō'ksaneppan*, *n'mā-bechī'lu*.

N'machegwichin 'I swim'; *n*, 1 p., + *machē* 'go' + \sqrt{kwich} 'swim' (?) + indef. *-in*.

N'machē'lan 'I go off'; *n*, 1 p., + *machē'lan*; cf. s. v. *umachē'lanō*.

N'machephurwa 'I run away'; *n*, 1 p., + *maje* 'go' + *ph*-root, denoting 'away,' as in *majephue*, *umajephogon*. The final *-a* in *n'machephurwa* is an indef. vowel.

N'mā-pedabassidit 'when they arrive'; *n'mā* place where + *peda* 'come, arrive' + partic. *-idit*; cf. s. v. *n'mabechī'lu*.

N'maji 'I go'; *n*, 1 p., + \sqrt{maji} 'go'; see just above.

N'muskawō 'I found it'; *n*, 1 p., + \sqrt{musk} 'find' + 3 p. obj. *-(w)ō*. Cf. s. v. *nuskawō*.

N'nadieliō'na 'we (exclus.) hunt'; *n*, 1 p., + (*n*)*adieli* + *b'na* = 1 p. sfx; see s. v. *k'nadieliō'na*.

N'nāmīō 'I see him (her, it)'; *n*, 1 p., + \sqrt{nam} 'see' + 3 p. obj. *ō* = A. *n'namihōn*. See s. v. *namīō*.

Nöchibëshkan 'I shoot him from (somewhere)'; *nöchi* = *n*, 1 p., + *ochi* 'from' + $\sqrt{\text{beshk}}$ 'shoot, strike' + *-han*, suffix 3 p. Here *ochi* = *uji* 'from.' Cf. s. v. *ugwisibëshkawan*, *ngizibëshkü*.

Nöchibözin 'I start from'; *n*, 1 p., + *ochi* 'from,' as above, + $\sqrt{\text{pöz}}$ 'start, go' (cf. s. v. *nbözin*, *ndébösun*).

Nöch'kawiyalgwun 'I started down from'; *n*, 1 p., + *ochi* 'from,' as above, + $\sqrt{\text{kawiyal}}$ 'start' (?) + *gwun*, perhaps = 'from it,' as it seems to be 3 p.

Nödagē'kigē'mit 'teacher.' *Nö(d)*, prefix of *nomina opificum*, + $\sqrt{\text{agēkim}}$ + partic. *-it*. See s. v. *ngizagēkimzin*.

Nög'jiphon 'all winter.' The element *nög'ji* seems to denote duration; *p(h)on* = 'winter' = A. *pebön*.

Ngöwudat'gwe 'one hundred' = A. *ngwedat'gwa*.

Ngöwudonkaw 'eleven' = A. *ngwedonkaw*.

Nöjienigökutahē'gon 'I am going to spear him'; *n*, 1 p., + *oji* 'from,' denoting the act of raising the spear, + $\sqrt{\text{enigökuta}}$ 'spear,' perhaps the same root as in A. *nöd-amagu-ögan* 'a fish-spear' + *hē'gon*, 3 p. obj.

Nolanomagenok 'I sell it well'; *n*, 1 p., + *ol* 'well' + $\sqrt{\text{anoma}}$ 'sell' + *-gen* = def. inan. + inan. *-ok*. Note A. *ngisanömen* 'I buy it.'

Nolä 'nine' = A. *noliwi*.

Nöliba-musajin 'I should like'; *n*, 1 p., + *oli* 'good' + cond. *ba* + *musaj* 'like, love'; cf. A. *k'musañlel* 'I love thee' + def. *-in*.

Nolä kesunkaw 'nineteen' = A. *noliwikasönkaw*.

Nolke 'deer' = A. *nolka*.

Nosäoplun 'I follow tracks'; *n*, 1 p., + $\sqrt{\text{nosa}}$ = A. *nosoka* 'follow' + *oplun* = A. *öplön*. Note A. *nosaöplön* 'I follow him where he made tracks.' The *-un(-ön)* is the 3 p. suffix.

Nowa 'a certain one.'

Nsida-alokun 'Wednesday' = A. *Nseda-alokan* 'the third work-day.' Cf. s. v. *Nisda-alokün*.

Nsinske 'thirty' = A. *nsinska*.

Nsonkaw 'thirteen' = A. *nsönkaw*.

Nsözuk 'eight' = A. *nsözek*.

Nsözukkesunkaw 'eighteen' = A. *nsözekkasönkaw*.

Nspi-ngüllemen 'while I hold it'; *nspi* = A. *nespi* 'while, in the act of,' as A. *naspi-paiöt* 'while he is coming.' Cf. s. v. *ngüllemen*.

Nukw'dus 'six' = A. *ngwedöz*.

Nukw'duskesunkaw 'sixteen' = A. *ngwedözkasönkaw*.

Nuskawö 'I find him' = *n'muskawö*; $\sqrt{\text{mesk}}$ (*musk*) 'find,' as in A. *n'meskatwö* 'I find him.' See s. v. *n'muskawö*.

N'weweldâmen 'I know it'; *n*, 1 p., + \sqrt{wewel} 'know' + def. inan. -*dâmen*.

N'wikkâsin 'I build a camp'; *n*, 1 p., + \sqrt{wik} , *wig* 'live' + \sqrt{kasi} 'construct,' as *kizi* 'make' + indef. -*n*. Cf. s. v. *g'zikasia*.

N'wi'konan 'I seize it'; *n*, 1 p., + $\sqrt{wi'k}$ 'seize' + connecting -*n* + 3 p. obj. -*an* = A. *n'wi'kwônôn* 'I pull him.' Cf. *eliwi'kwiphuk*, *uwi'kwunigun*.

N'wizâ'ka 'I am in a hurry'; see s. v. *wisanôgwizi* 'hurry up.'

N'wuchênemen 'I have it'; see s. v. *wejan'manban*.

Nzap'tahun 'I strike him'; *n*, 1 p., + $\sqrt{sap'ta}$ 'strike' + 3 p. obj. -*h(un)*.

Odene 'city' = A. *odana*.

Okan 'hunt'; see s. v. *nô'münzôkan*, *nachigadônkak*; = $\sqrt{ônkan}$ in Abenaki.

P

Pagolgwâmasek 'shoal'; A. *pôguasô* 'it is shallow,' lit. 'light in color,' as A. *pôguas* = 'moonlight.'

Pawanobskewad'wun 'that I should speak Penobscot'; *pawanobske* + \sqrt{aduwe} 'speak' + 1 p. partic. ending -(*w*)*un*.

Pawanobskek 'Old Town, Me.,' the headquarters of this tribe.

Pawanobské tegok 'the Penobscot River.'

Pawanobskewi 'Penobscot'; pl. -*ak*.

Pebôn'kik 'in the North'; *pebôn* 'winter' + *ki* 'land' + loc. -*k*.

Pechialgwa 'when I arrive'; *pechi* 'come to' + \sqrt{l} , same stem as in A. *hlômuk* 'run' + -*gwa*, 1 p. participle.

Peji'ladi't 'when they return'; A. *pajihlômuk* 'go back'; cf. *n'mâbechi'lu*.

Pemaf'tui'lawul'dêgit 'their tracks'; *pem* (*pemi*) denotes duration + *p'tui'lawul*, contains same root \sqrt{la} as in *ubenhlawô* + *degit*, 3 p. pl. participle.

Pem'giskak 'to-day' = A. *pamgiskak*; *pemi* 'during' + *kiska(k)* 'day,' with loc. -*k*.

Peskagâmek 'Branch Lake' = A. *Paskangamak* 'name for Tupper Lake in the Adirondacks.' See Prince, Jour. Amer. Folk-lore, 1900, p. 124.

Pesseb'gat 'Clear Water,' from \sqrt{pess} , seen in A. *pessakw'la* 'it shines' + *beg* = A. *baga* 'lake,' only in terminations.

Petegwagâmek 'Round Lake' = A. *Petegwôgamak*; *petegwi-* 'round' + -*gama* 'lake' + loc. -*k*.

Pezukw 'one'; A. *pazego*; cf. s. v. *bes'goda*.

Pidigē 'come in' = A. *pidiga*.

Pi'ta 'very' = A. *pi'ta*.

Pi'te 'foam,' as *pi'tebeg'li* 'foamy water' = Lake Champlain; in A. *Pi'taobayok*. Cf. s. v. *p'sanibi'tekat*.

Piuksessi 'a little'; also in A., as an adjective, *piuksessit*, pl. *-ijik*.

P'la; precativative particle, as in *cha p'la* 'pray come.'

P'mau'zovinnowak 'people'; *p'mau'zo* 'he walks' + *winno* 'person'; lit. 'one who walks' + anim. pl. *-(w)ak*.

P'mi'p'gwaladiji, 3 p. obv. participle: 'he tracking'; *p'mi* = *pemi* duration or motion + $\sqrt{p'gwal}$ 'track' + *idiji*, 3 p. obv. participle.

Pontegok 'at the falls'; A. *pontegw* 'rapid' + loc. *-ok*.

Popoka 'cranberry' = A. *pó'pókua*.

P'sanibi'tekat 'it (the lake) is full of foam'; $\sqrt{p'san}$ 'full' + *pi'te* 'foam'; cf. s. v. *p'sinbé'sin*.

P'sinbé'sin 'it is flood tide'; *p'sin* (*p'san*) 'full' + *be* water-root seen in *nebi*, q. v., + \sqrt{s} 'go,' as in A. *elosá*, + def. *-(i)n*.

Pudawasina 'they come together in council'; *-ina*, 3. per. pl. A. *w'badawasinô*.

Pussowis 'cat' = A. *pesowis*; Pass. *puss-sis*; Eng. loanword.

S

Saagad'wewāgon 'a difficult language'; A. *sagi* 'difficult' + (*i*)*ad'wewāgon*; see s. v. *k'd'lad'wewāgon*.

Sag'mā 'chief'; pl. *-k*; A. *sōgmō*.

Sá'kwoszeliji 'he (she) coming to him'; \sqrt{sakwos} 'approach' + 3 per. obv. *-eliji*. Cf. A. *sōkhasat* 'he approaching' (partic.).

Salá'ki 'suddenly'; A. *salá'kiwi*.

Sandek 'Sunday'; A. *Sandaga*.

Seba 'tomorrow'; A. *saba*; Pass. *sepaūnu*.

Sech'i'lagi 'o'clock'; as in *mdalage sech'i'lagi* 'ten o'clock.'

Senōbe 'man'; A. *sanōba*. The last element *ābe* (*ōba*) is the same as in *alnōbe*, q. v. = A. *alnōba*. Cf. Pass. *sē'nāp* 'man.'

Senōbē'tuk 'O men,' with voc. *-tuk*. Cf. *alnōbē'tuk*.

Sibayik 'Pleasant Point, Me.,' the headquarters of the Passamaquod-dies.

Sibayikawi 'Passamaquoddy'; pl. *-ak*.

Sibi 'late, afterwards' = A. *sipki* 'late.'

Sigwan'wik 'in the spring'; *sigwan* 'spring' + loc. *-(w)ik*.

Sips 'bird'; A. *sips*, prob. onomatopoeic. Dim. *sip-sis*.

Skamikw 'salmon,' with indeterminate *i(e, u)*-vowel = A. *m'sku-amagw*. Contains the element 'red' = 'red fish.'

Skaniminal 'seeds'; A. *w'skanimenal* and A. *skamōnal* 'Indian corn,' with inan. pl. -*al*.

Skewa'tik 'Friday'; A. *skewa'tukwikisgad*; lit. 'the day of the Cross' (A. *skawa'tuk*).

Skinōsis 'boy'; *skinōs*, seen also in *k'wuskinōsum*, q. v. + dim. -*sis*.

Skog 'snake'; common Algonic word; Mr Speck found this word still surviving in the memory of an old colored man on Long Island, where the native Indian language (the Montauk) has been dead since the end of the eighteenth century (cf. Silas Woods, *Sketch of the First Settlers of Long Island*, p. 28, note).

Skō'tam 'trout'; pl. -*wak*.

S'noji 'ashore'; *sen* 'rock,' indicating 'rocky shore,' + *ji* = A. *-jiwi* in A. *senojiwi* 'ashore, by the shore.'

Sog'ni 'day,' as in A. *sogwakiwik* 'period of a day.'

Spōza'kw 'morning.' See just below, and s. v. *el'mogis'ga'kiwik*.

Spōza'kiwik 'in the morning'; *spōza'kw* 'morning,' with loc. -(*w*)*ik*; A. *aspōza'kiwik* 'in the morning'; *spōzoo* 'it is morning.'

Sukhamid 'standing up'; *sukham* = A. *sakan* 'stand' + *id(ē)*, participle 3 p. See just below.

Sukhinodē lun 'he came out at them'; *sukhin* = A. *sakan* 'stand' + 'la' 'run,' in A. *hlōmuk* + suffix -*un*, 3 p.; lit. 'he comes standing up,' as a bear attacks; see just above.

T

Ta 'and'; A. *ta*, connected with the asseverative particle *te*.

Taba; see s. v. *daba*.

Tagwāgwī 'in the autumn'; A. *tagwōgwīwi*.

Tagwāgwīyigi 'every autumn'; the repetition of time being expressed by the vocalic internal augment (-*wiyi*-).

Talō'u 'like, as'; A. *tahōlawi*, apparently metathetic.

Tali 'there, at'; see s. v. *dali*.

Tan age 'how' = Pass. *tan*, for A. *tōni aqua*.

Tapp'kwudē'tehēmen; *tapp(kwu)dē*, same stem as $\sqrt{\text{tappodē}}$, s. v. *ndappodē'tuhu* + inserted *kwu* (?) + inan. def. -*emen*.

Tebāūwūs 'seven' = A. *tōbawōs*.

Tebāūwūskesūnkaw 'seventeen' = *tōbawōzkasōnkaw*.

Tēmēndk 'soon.'

T'geūnige 'otter' = A. *ūnegigw*.

T'ke 'cold' = A. *t'ka*.

T'má kwe 'beaver' = A. *t'má kua*.

Tòki law'lidédit 'when they woke up'; *toki* 'awake' + *law'l*, reduplicated *l*, + *dé'dit*, 3 p. pl. participle. See s. v. *toki lit*, and cf. A. *kizi-tòkiadòdit* 'when they awake'; *ndòki lon* 'I awake.'

Tòki'lit 'when he wakes'; *toki* 'wake' + \sqrt{hl} , perhaps the root 'come,' as in A. *hlòmuk* 'one comes' = 'come awake' (Germ. *wach werden*). See just above.

-*Tuk*, vocative ending; see s. v. *senòbè tuk*.

U

Ūbenhláwō 'they track'; *u*, 3 p., + *pen'la* 'see tracks' (\sqrt{pen} 'view' + \sqrt{hla} 'run,' as in A. *hlòmuk* 'run') = go to see; cf. s. v. *nben'la*.

Ūdágima 'his snow-shoes'; *u*, 3 p., + interc. -*d*- + *agim* 'snow-shoe' + poss. sfx. -*a*. Cf. A. *ōngem*.

Ūdāgwiphowal 'they catch him'; *u*, 3 p., + interc. -*d*- + $\sqrt{d'gwi}$ 'catch,' as in A. *udakwōnō* 'they catch him' + \sqrt{ph} = snatching, seen in *āmajephogon*, *majephua*, q. v.

Ūdalteláwul 'he shoots him'; *u*, 3 p., + -*dal*- 'there' = *dali* (*tali*) \sqrt{el} 'kill, shoot' (?) + obv. -(*w*)*ul*.

Ūdegeskwe'tahun 'he embraces her (him)'; *u*, 3 p., + interc. -*d*- + $\sqrt{degskwé't}$ 'embrace' (?) + 3 p. obj. -(*h*)*un*.

Ūdēlanō 'they say to him'; *u*, 3 p., + interc. -*d*- \sqrt{el} 'say' + 3 p. -*anō* = A. *w'dihlōnō*. See s. v. *k'dilineppan*.

Ūdē mizal 'his dog,' poss. form of *alemūs*, q. v.: *u*, 3 p., + interc. -*d*- + $\sqrt{emīs}$, same root as in -*mūs* in *alemūs*. The *m*-element in the word 'dog' appears in the cognate eastern Algic dialects as follows: Nat. *anum*, Nipmuck *alūm*, Del. *allum*. It is probable that -*ūs*, *is* in *alemūs*, *nd-ēmīs* may be an abbreviated form of the stem seen in *awas* 'animal,' q. v.; i. e., the dog is the *alum* (*anum*)-animal. In Trumbull, Nat. Dict., p. 247, the stem is said to mean 'take hold of'; in Nat. *nuf-ānnun* 'I seize him.' If this is so, the words *alemūs*, *ul mūs*, simply mean 'the seizing animal.' See s. v., *ūgwisitkunawal*.

Ūd'labōzinō 'they go out to look'; *u*, 3 p., + *d'la*, perhaps = continued action + $\sqrt{pōz}$ 'go.' The idea of continued going, i. e. to seek, is plainly connoted in this form. See s. v. *nbōzin*.

Ūd'liwagumal'en 'he runs to her (him)'; *u*, 3 p., + interc. -*d*- + temporal (*e*)*li* = continued action + *waguma* 'support, hold up' + *li'la* 'run' = A. *hlòmuk* + 3 p. -*en*; viz., he runs to her for support. Note A. *wagonakwam* 'propstick, support' (under a fall-trap).

Ūgaŭ'gweni 'he stays all night'; *u*, 3 p., + *kaŭ'gwen* 'stay all night' = A. *chakweniwi* 'all night'; A. *w'jakwen-adialen* 'he goes all night hunting.' This stem probably contains \sqrt{kaw} 'sleep.'

Ūgi'o'sen 'he goes into the woods'; *u*, 3 p., + $\sqrt{k(i)}$ 'woods,' seen in A. *kpi-wi* 'in the woods' (cf. s. v. *ng'pi -ndel'o'sun*) + *o'se(n)* 'he goes,' seen in A. *-osa*, in *odosa* 'he goes' + indef. *n*. My reference of *abig'wo'set*, q. v. to A. *ōnbōnji* (Anthrop. IV., p. 26), is probably incorrect.

Ūgwildawō 'he seeks them'; *u*, 3 p., + \sqrt{kwil} ; cf. s. v. *kwil-awa'sena*, *kwilaw'hatwal* + 3 p. sfx. *-ō*. In A. *waji nolka-a gwildawōt* 'he tracks the deer.'

Ūgwizibēskawan 'they shoot him'; *u*, 3 p., + *gwizi*, unusual pronunciation for *gizi* = past tense + \sqrt{pesk} shoot (see s. v. *ngizibēskū*, *nōjibēskhan*); perhaps = 'strike, smite with a smart blow.'

Ūgwizikūnawal 'he catches him'; *u*, 3 p., + *gwizi* = *gizi*, as above, past sign + *l'kun* 'seize,' perhaps containing the same stem as in Nat. *annun* 'seize' (see s. v. *udēmizal*) + *awal*, obv. 3 p.

Ūgwulaw'hatwal 'they seek him'; *u*, 3 p., + *kwā(ū)lawā* 'seek + obv. *-(h)awal*.

Ūgwuznawiganō 'they keep camp'; *u*, 3 p., + \sqrt{kwuz} 'keep, guard,' as in A. *saagawzit* 'he keeps' + \sqrt{wig} 'live' (s. v. *wig'womwok*) + 3 p. pl. *-ano*.

Ūjimajephugue 'he starts from'; *u(w)* of 3 p. absorbed in *ūji* 'from' + *maje* 'go' (s. v. *n'maji*) + \sqrt{ph} -stem = 'awayness, fromness' (s. v. *ūmajephūwe*) + suffix indef. *-(w)e*.

Ūli 'good' = A. *ūli*.

Ūmajēlanō 'they start off'; *u*, 3 p., + *majēlan* 'start off' (s. v. *n'majēlan*) + 3 p. pl. *-ō*.

Ūmachephōgon 'she takes him away'; *u*, 3 p., + *maje* 'go' + \sqrt{ph} -stem 'away, from,' as above + *(h)ogon*, 3 p. sbj.

Ūnadielina 'they go hunting'; *u*, 3 p., + *nadieli* (s. v. *nadadieli*.) + 3 p. *-ina*.

Ūnāmial 'he sees him'; *u*, 3 p., + \sqrt{nam} 'see' + obv. *-al*.

Ūnamitōnō 'they see it'; *u*, 3 p., + \sqrt{nam} 'see' + inan. *-i ton* + pl. 3 p. *o*.

Ūnamiyāwul 'they see him'; *u*, 3 p., + \sqrt{nam} 'see' + *(y)awal*, obv.

Unilōno 'they kill him'; *u*, 3 p., + \sqrt{nil} 'kill' (A. *nihlō*) + 3 p. *(n)ō* = A. *unihlōnō* (see s. v. *ni lōh*).

Uwā 'that' = A. *uwa*. See s. v. *wa*.

Uwikunigun 'she (he) seizes him (her)'; *u*, 3 p., + *wikun* 'seize' + 3 p. subj. *-gun*. Cf. s. v. *n'wi'konan*, *eli-wi'kwiphuk*.

W.

Wa 'that'; s. v. *uwa*.

Wabadenesölduwak wājowuk 'white mountains'; pleonastic, as the first word = 'white mountains'; $\sqrt{wāb}$ 'white,' seen in the race-name *Wābandāki* 'people of the dawn or white land' + *aden* 'mountain' + *esol*, perhaps reflex. = 'which are in themselves' + pl. *-wak*. Note the animate *-k* here.

Wābigit 'white man,' partic. from $\sqrt{wāb}$, as above; pl. *-ijik*; = A. *wōbigit*.

Wājo 'mountain'; pl. *-wuk*; = Pass. *wucho*, A. *wajo*; with loc. *wājōk*.

Wāka 'far'; in composition as *wākachnal'muk*, q. v.

Wākachinal'muk 'far up the river'; *wāka* 'far' + *chi*, part of *uji(uchi)* 'from' + *nal'muk* of which *nal'm* must mean 'river' + loc. *-uk*.

Wani'li 'he gets lost'; \sqrt{wan} as in *wanzo* 'he is wild' + 'li' 'run,' as in A. *hōlmuk* 'run.' Cf. A. *waniaōmuk* 'get lost.'

Wānzo 'he is wild'; \sqrt{wan} , as just above, + reflexive *-z-* + *o*, 3 p. sing.

Wāsali 'snow' + A. *wasōli*.

W'bejowōse 'he goes into'; *w'*, 3 p., + \sqrt{pej} 'enter' + (*w*)*ōse* = *ōse* 'he goes.'

W'dalnobād'wun 'he talks Indians'; *w'*, 3 p., + interc. *-d-* + *alnōbe* 'Indian' + \sqrt{aduwe} 'speak' + indef. *-un*.

We 'that'; variant of *wā*, q. v.

Wechkawōsel'jil 'him coming'; obviative participle; *wech* 'from,' cognate with *weji*, *uji* 'from' + $\sqrt{karwōse}$ 'come, go,' contains *ōse* 'go' + obv. partic. *-chjil*. This is really a loanword from Pass. *wechkoyaljil*.

Wejān'mandan 'the one I had'; \sqrt{weja} 'have' (cf. A. *n'wajōnem* 'I have') + *-nem*, inan. def. obj., + partic. *-an* + *ban*, sign of past. See s. v. *n'wuchēnemen*.

W'glidahus 'he thinks'; *w'*, 3 p., + $\sqrt{(k)lid}$ 'think' + \sqrt{ahus} denoting a live condition. In Pass. *n'klidahus* 'I think.' Perhaps \sqrt{ahus} is connected with *awas* 'animal; living creature,' to denote sentient action.

Wichigaskitāgwek 'outlet of a river'; *wichi* = *wechi* 'from, out' + \sqrt{kask} 'go out,' connected with A. *kwajek* 'out' + *tagw* = *tegw* 'river-termination' + loc. *-ek*.

Widâbal 'his friend's'; from *widdabe*, with obv. $-(a)l = A. widôba$.
Widâbe 'friend'; perhaps = 'the man with,' as *wi(d)* may = \sqrt{wi} , the 'with' -particle as in Pen. *wijial*, just below; A. *wijawi* 'come with me' ($-i$) + *âbe* 'man,' the erect being. See s. v. *nidâbe*, *alnôbe*, *senôbe*.

Wigamikw 'dwelling, house'; \sqrt{wig} 'dwell' + *amikw*, prob. indef., = 'one dwells'; lit. 'the place where one dwells.' See s. v. *nistwiek*, and *wig'wômwook*.

Wigarwesel 'his mother' = *w'wigawesal*; *w'*, 3 p., + \sqrt{wig} 'with,' + *gawes*, perhaps a part of the same stem as Nat. *okasu* 'produce' (Trumbull, op. cit., p. 297) + the obv. poss. $-(a)l$. I connect the \sqrt{as} -stem here also with *awas* 'animal' (see s. v. *w'glidahus*).

Wigia 'I camped'; really partic. with 1 p. $-a$ from \sqrt{wig} 'dwell.' See s. v. *wigit*.

Wigit 'where he lives'; \sqrt{wig} 'live, dwell' + partic. $-it$. See just above.

Wigiyidit 'they camped'; \sqrt{wig} 'dwell' + 3 p. pl. partic. $-yidit$.

Wig'wômwook 'home' (direction); lit. 'to the house' = *wig'wom* 'house' + loc. $-(w)ok$.

Wijial 'his brother' = *wijia* 'brother' = 'the companion' (see just above) + obv. $-(a)l$.

Wisânôgwzi 'hurry up'; same stem as in *n'wiza'ka*, q. v. + imper. 2 p. $-ôgwzi$, the $-zi$ probably being reflexive.

Wiw'nalabaaduk 'surround ye this' (inan.); *wiw'na* 'around, encompassing' + *la* 'run' = A. *hlômuk* + *ba*, perhaps cohortative + partic. $-ad(t)$ + 2 per. pl. imper. $-uk$.

Wiyû 'this.'

W'logwz 'yesterday' = A. *ulôgua*; the $-we$ is the same element seen in *nchê'kwe*, q. v.

Wôbtegua 'wild goose'; A. *wôbtegua*; lit. the white (*wôb*) river (bird); \sqrt{tegu} = 'river.'

Wulitwâskwudun 'he (she) knows well'; *w'*, 3 p., + *ûli* 'good, well' + \sqrt{wa} , same syllable as in *wao'tam* 'he understands' (s. v. *k'wao'tam*) + *skwud* (?) + indef. $-un$.

Wunna 'that' = dem. *wu* + dem. *na*.

Wuzi'kat 'it is ebb tide'; in Rasles *w'si'kkat* 'it falls'; ebb = *kisekat* in Old Abenaki.

Y

Yaga 'and.' A. and Pass. *naga*.

Yawdalokun 'Thursday' = 'the fourth (s. v. *yeu* below) working day' = A. *iawda-alokan*.

Yawonkaw 'fourteen' = A. *iawōnkaw*.

Yeu 'four' = A. *iaw*.

Yū 'this' (s. v. *yugik*, *yūlit*).

Yugik 'these' (anim.). See just above.

Yūlit 'these' (inan.). See just above.

Yūwa 'that one.' See just above.

COLUMBIA UNIVERSITY,

NEW YORK CITY.

THE CLAN ORGANIZATION OF THE WINNEBAGO

A PRELIMINARY PAPER

By PAUL RADIN

THE first person to enumerate the clans of the Winnebago was Lewis H. Morgan,¹ whose list is as follows:

- | | |
|----------------------------|-------------------------------|
| I. Wolf (shonk-chun-gara). | V. Elk (hoo-wan-ra). |
| II. Bear (hone-cha-ra). | VI. Deer (cha-ra). |
| III. Buffalo (chara). | VII. Snake (waka-na). |
| IV. Eagle (wahk-cha-hera). | VIII. Thunder (wakon-cha-ra). |

This list remained the only one until 1893 when J. O. Dorsey² obtained another and better one from James Alexander (Winnebago), a member of the Wolf clan. J. O. Dorsey's list comprised the following:

- | | |
|--|--|
| I. Wolf (shunk-cank). Archaic name (dhego-ni). | (c) Hawk (keretcu ³). |
| II. Bear (hontc). Archaic name (conakera). | (b) Pigeon (rutcge). |
| III. Elk (hu-wa ³). | (d) Thunder-bird (waka ³ -tcara). |
| IV. Snake (waka ³). | VI. Buffalo (tce). |
| V. Bird (waniñk). | VII. Deer (tca). |
| (a) Eagle (hitcaxcepara). | VIII. Water-monster (waktcexi). |

Another list, that cannot, however, have been intended as a clan list, is given by Dr Foster.³ It comprises the following:

- I. Thunder-bird family or invisible Thunder-bird people.
- II. The Air-family, the visible Thunder-bird people.
- III. The Land or Quadruped family.
- IV. The Water family.

The writer obtained the two following lists, that of Jasper Blow-snake being the more perfect.

¹ Morgan, *Ancient Society* p. 157.

² *Fifteenth Ann. Rep. Bureau of American Ethnology*, pp. 240-241.

³ Quoted in J. O. Dorsey's *Mss. of Winnebago Clan Names* (Bur. Amer. Eth.).

JASPER BLOWNSNAKE'S LIST

- A. uañ'gerēgi he'rera (in the heaven there being).
 I. waka"dja, Thunder-bird.
 II. wo'naγi'rē uañ'kcik, People of War.
 III. tca'xcēp, Eagle.
 IV. ru'tcē, Pigeon (extinct).
 B. ma'ne'gi he'rera (on earth there being).
 V. hū'tc, Bear.
 VI. cūñ'kcūñk, Wolf.
 VII. waktcexi', Water-spirit.
 VIII. tca', Deer.
 IX. hū'wa", Elk.
 X. tce', Buffalo.
 XI. ho', Fish.
 XII. waka", Snake.

JOHN HARRISON'S LIST

- A. Upper or Heavenly Clans.
 I. waka"dja, Thunder-bird.
 II. tca'xcēp, Eagle.
 III. ru'tcē, Pigeon (extinct).
 IV. wonaγi'rē uañ'kcik, Warrior.
 B. Lower or Earth Clans.
 V. ho'tc, Bear.
 VI. cūñ'ktcūñk, Wolf.
 VII. Waktcexi', Water-spirit.
 VIII. waka", Snake.
 IX. hu'wa", Elk.
 X. tce'xdji", Buffalo.

The main differences between the above lists are the order of clans, the position of the Wolf clan, the presence of a general bird clan called wa'niñk by Dorsey, the double names for the Wolf and Bear clans, and the absence of a Fish and Warrior in Dorsey's and of a Hawk clan in Blowsnake's list.

With regard to the position of the Wolf clan, in spite of Dorsey's and Morgan's agreement, I am positive that it is due to mere accident, the informants of both observers having in great likelihood belonged to that clan. In no case did there seem to be any doubt among the Winnebago questioned in 1908 and 1909 that the position of leaders of the two groups belonged to the Thunder and Bear clans. This is also borne out by the clan legends. There is a considerable amount of evidence in favor of the relative positions of the clans in the upper division as given by Blowsnake. Dorsey's order is based on a misconception and is confessedly artificial. As to the order of the clans in the lower or ma'ne'gi division, there seems to be agreement only for the Bear, Wolf, and Snake clans. The position of the others is still indefinite. Dorsey's "Bird gens" is really the upper division of Blowsnake. He did not know of the existence of two exogamic divisions and was misled by the fourfold

division, of which the legends frequently speak, into believing that his Bird group with its supposed four sub-divisions was in reality a vestige of an older four-fold subdivision of the gens.

The "dhegoni" and "conakera" names for the Wolf and Bear clans, the writer also obtained. They may be archaic as Dorsey supposed, but there is likewise considerable likelihood that, in addition to being archaic, they also had some special significance. Their meaning is unknown to the present Winnebago. Of the identity of the Hawk and Warrior (wo'naʒi'rê uañ'kcik) clans there is little doubt. Members of the Winnebago tribe refer to this clan indiscriminately as Warrior or Hawk-people, and in the clan legends they are spoken of as being descended from four hawks (kerêtcû').

Foster's "four original totems," as he calls them, represent neither clans nor the divisions corresponding to the uañ'gerêgi and ma'ne'gi. Some of the myths speak vaguely of such a four-fold division but that this "mythological" classification was ever reflected in the social organization is not corroborated by evidence of any kind.¹

The upper or heavenly (uañ'gêrêgi he'rera) and lower or earthly (ma'ne'gi he'rera) people constitute two exogamic divisions. The terms, however, have no connotation of superior and inferior but refer simply to the fact that the ancestors of the one were birds, i. e. inhabitants of the air, and those of the other, land animals. To the former belong the thunder-birds who are strictly speaking supposed to live beyond the air and the water-spirits and fish who inhabit the water. Some legends even speak of the water-spirits as living underneath the water. There is considerable discrepancy in the information obtained about the Water-spirit clan. Many of the Indians questioned stated that they merely meant water animals such as the beaver, otter, etc., while others thought that the spirit-beaver, otter, muskrat, etc., were meant, and still others considered that mythical monsters were referred to. All of these statements may be correct. The various answers can certainly be justified by many of the Water-spirit clan names.

¹That such a classification may be at the basis of a Siouan social organization is shown by the Ponka where the names of the divisions correspond strictly to those of Foster; cf. *Fifteenth Ann. Rep. Bur. Amer. Eth.*, pp. 228-229.

A uañgêrêgi man must marry a maⁿne'gi woman and vice versa, but a member of one of the uañ'gerêgi clans does not have to marry into any particular maⁿne'gi clan. Those Winnebago who cared to give an explanation of their exogamy declared that the members of one clan, or of the clans of either division, were too closely related to permit intermarriage.

The Winnebago knew of no significance attaching to the two-fold division of the tribe. Among many of the other Siouan tribes¹ analogous divisions are found but, with the possible exception of the Osage² and Iowa³, their significance is vague. Among the Omaha⁴ there are two divisions, and a certain clan in each division, bearing the same name as the division itself, has specific functions which may in a way be considered as representative of that division as a unit. In a similar manner it is possible that the positions of the Thunder-bird and Bear clans at the head of the uañ'gêrêgi and maⁿne'gi divisions, together with the specific powers conferred upon them, are indicative of an analogous condition⁵. The functions of these clans may, however, be regarded simply as those of ordinary clans possessing certain specific powers, in no way connected with, or representative of, the larger divisions.

Descent is patrilineal and a man's name generally belongs to his father's clan. Formerly the clan name was always that of the father's clan, but the Winnebago have now become exceedingly lax in this particular. This is also true of the inheritance of the sacred clan bundles, and for purposes of convenience both points will be treated together. At the present time certain irregularities have crept into the reckoning of descent and the transmission of the clan bundle which were exceedingly puzzling at first. A large number of individuals, for instance, bear names belonging to the mother's clan, and the war or clan bundle occasionally passes out of the clan.

The first point was satisfactorily explained as soon as a number of genealogies were collected. From these it became apparent

¹ *Fifteenth Ann. Rep. Bureau of American Ethnology*, pp. 213-244.

² *Ibid.*, pp. 233-234.

³ *Ibid.*, pp. 238-239.

⁴ *Ibid.*, pp. 230-232; also *Third Ann. Rep.*, pp. 219-251.

⁵ *Ibid.*, also *Eleventh Ann. Rep.*, p. 542.

that whenever a person bore a name of a clan not his father's, he had a male paternal ancestor who was either a white man or an Indian of another tribe. Such individuals had, of course, no Winnebago clan name, and consequently a name from the wife's clan was selected. This custom once begun seems to have acted as a precedent and thereafter the names were taken from the maternal clan, although descent was still reckoned in the paternal line.

The second point is admittedly an irregularity that occurs oftener now than in previous times but was by no means impossible then. The war or clan bundle, the most sacred object in the possession of a clan, was supposed to be transmitted in the male line only, so that it should not pass out of the clan. But at the same time it could be given only to that child of the possessor of the bundle who by his actions and the interest he manifested in learning the ritual, legends, and songs pertaining to the ceremony showed himself capable of properly providing for the bundle. It happened occasionally that a man either possessed no son or his son did not exhibit sufficient interest in the sacred object. In such a case he might not care to give it to a distant relative or to a stranger, even though the latter belonged to the same clan, but preferred to give it to a child of his sister or of his daughter. This passing of the clan bundle of one clan into another happened very rarely in early days, and even now, when the old customs are fast falling into disuse, is not very common. These two points have been dwelt upon at some length, because they explain in a simple manner data that would in all probability have been seized upon by sociologists as proofs of vestiges of a former matriarchate, and because they emphasize again the need of obtaining specific explanations for every case.

Two other features of considerable importance which, however, need further investigation before they can be properly understood might be mentioned here briefly, namely that relating to marriage relationship and that relating to the attitude of a person toward his maternal uncle. A married man always lives with his wife's parents for the first few years after marriage, must never address his mother-in-law, and must act as a servant of his father-in-law as long as he lives with him. The other point, the relation of a man to his maternal uncle, is very peculiar. A man can take liberties with his

maternal uncle (hide'k) which are expressly prohibited with his paternal uncle and aunt and his maternal aunt. Yet in spite of this freedom a man and his maternal uncle stand in particularly close relationship, the former (hitecūngê') always acting in the capacity of a servant. On the war-path, particularly, this relationship is shown in its strongest phase, for then the nephew (or as he is called on such an occasion the wagixô'na) must accompany him as a sort of esquire and suffer himself to be slain should his maternal uncle — known as dotca'hūñk or war-path leader — be slain or captured.

All the Winnebago clans have animal names. In this they are similar to the Algonquian tribes that surrounded them (Menominee, Sauk and Fox), and to a certain extent to their kindred Siouan tribes, the Omaha, Ponka, Kansa, Oto, Osage, and Iowa. In no case, however, did the Winnebago names have reference to animal taboos as do those of some of the kindred Siouan tribes.¹ All of the animal clan names of the Winnebago refer to living species of animals with the exception of the Thunder-bird and perhaps the Water-spirit.

The Winnebago do not claim descent from the animal after which the clan is named but assert that their ancestors were transformed animals who met at Green Bay, Wisconsin, and were there transformed into human beings. Four of each species of animal were present, and the older Winnebago can still tell you from which of these four brothers they are descended. Their attitude toward the clan animal is in no way different from that toward any other animal. They observe no taboo, and hunt and eat at any time of the year the animal which they regard as their personal manito. They even pray to the bear-spirit to grant them medicine sufficiently powerful to capture bears easily.

The Winnebago never possessed a camp circle, and if any definite order of clans existed during the hunt or at a council it has long been forgotten. Among the Omaha² and southern Siouan tribes³ the clans on certain occasions were arranged around their camp circle in a definite manner. The camp circle itself was divided

¹ *Third Ann. Report Bureau of American Ethnology*, pp. 227-251.

² *Ibid.*, pp. 219-221.

³ *Eleventh Ibid.*, pp. 522-524; *Fifteenth Ibid.*, pp. 226-240.

into two, sometimes four divisions.¹ All that can be stated with any degree of certainty regarding the Winnebago is that, on hunting trips, the members of the Bear clan took charge of the two wings of the party, and the members of the Thunder-bird clan occupied the center.

Among the Omaha the order and importance of the clan in the camp circle depended upon the clan's possession of certain sacred tribal objects.² The same was true to a large extent for the Ponka, Kansa, Osage, and Iowa.³ There was likewise a considerable distribution of powers of all kinds among the clans of these tribes. These powers were of the most varied kind, dealing sometimes with the details of the handling of sacred objects as among the Omaha,⁴ with leadership in the worship of special powers, with the duty of acting as servants to other clans,⁵ with the regulation of the hunt,⁶ with the consecration of the mystic fire-places,⁷ with war and peace,⁸ or with general disciplinary powers.⁹

Among the Winnebago only two clans have distinctive functions, the Thunder-bird and the Bear clans. It is probable that the Warrior or Hawk and the Water-spirit clans¹⁰ also possessed specific powers but the evidence is too fragmentary as yet to permit any positive statement to that effect. The Winnebago tribe, as such, possessed no sacred objects, but each clan did possess a clan or war-bundle, connected with which was an elaborate ritual known as the Winter Feast. As far as the writer knows, the division of this Winter Feast into two parts, one for a deity known as Ho'cerê'û'-wahi, Disease-giver, and one for deities known as Ha'he', Night, and Waka'dja, Thunder-spirit, was found among the feasts given by all the different clans.

Although, as mentioned before, only the Thunder-bird and Bear

¹ *Fifteenth Ann. Report Bureau of American Ethnology.*

² *Third Ibid.*, pp. 219-251.

³ *Eleventh Ibid.*, pp. 522-524; *Fifteenth Ibid.*, pp. 226-240.

⁴ *Third, Eleventh, and Fifteenth Ibid.*, op. cit.

⁵ *Eleventh and Fifteenth Ibid.*, op. cit.

⁶ *Ibid.*

⁷ *Ibid.*

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ Dr Foster's Mss. in Bureau of American Ethnology.

clans have definite functions, every clan has certain objects and immaterial possessions which are considered as belonging especially to it. With regard to these clan possessions a strange psychological fact was observed. If a member of one clan asks for one of these specific objects belonging to another he never receives it but receives instead the most valuable present that the clan addressed can give. However, it is considered such bad form, it is so immodest, to make such a request, that no self-respecting Indian would be likely to ask for such an object. (The writer could obtain only a few of these peculiar clan "properties.") Such were, for example, to ask a member of the Thunder-bird clan for a brand from its fire-place, or to sit on the fire-logs in his house; to admire or criticize anything in the lodge of a Bear clan man; or sit or stand in the doorway of a man of the Wolf or Water-spirit clan and ask for water.

The Thunder-bird clan was regarded as the most important of the *uañ'gêrêgi* class. The chief of the tribe was always selected from it and he stood as the exponent of peace at all times. He could not lead a war-party, although, according to some, he could accompany such a party. His lodge always stood in the center of the village and contained a sacred fire-place, around which only members of the Thunder-bird clan could sit. The lodge was a sanctuary for all wrong-doers. No one could be killed there, and a prisoner of war escaping to it had to be spared. The Thunder-bird chief always acted as intercessor between wrong-doers and their avengers. Even in so extreme a case as the murder of a clansman, this chief would always attempt a reconciliation by which the life of the offender might be spared.

The Bear-clans possessed a sacred lodge which stood at one end of the village. The lodge itself was known as *manû^hpe'tci^h* (soldiers' or policemen's lodge), and the members themselves as *manû^hpe'*.

The functions of this clan consisted in the regulation of the hunt, general disciplinary rights, and the duty of carrying into effect the orders of the Thunder-bird chief. At a tribal hunt their power was seen in its most characteristic development. Whosoever disregarded the rules, such as shooting too early or cutting up the captured animal out of turn, could be deprived of his bow and arrows, which would then be restored to him only if he acquiesced in his punish-

ment. But should he repeat his offense bow and arrow would be broken.¹ The general disciplinary powers were those of patrolling the village and preventing disorder. Adultery was punished by flogging. The leader of the clan carried an emblem symbolical of his power called na^umañxi'nixi'ni (wood growling), very similar in appearance to that called "invitation stick" by Hoffman and figured in his Menominee² monograph. The leader of the Bear clan always carried this emblem of his authority whenever he patrolled the village. He and his followers would make their rounds singing, and at their approach all noise would immediately cease.

Whether the Bear-clan possessed other powers such as war-powers is an open question. The name of the Warrior or Hawk clan and the testimony of a number of Indians suggests that this clan may have had such powers, as does likewise the fact that a careful distinction is made between a man^upe or policeman and a uañkwa'cocê or warrior. In spite of this, however, the Bear or Soldiers' lodge is commonly referred to as a war lodge. All capital punishments were executed there. If the Thunder-bird chief failed in his intercessions for a criminal the latter was handed over to the Bear lodge for punishment. A prisoner of war seeking refuge in it was immediately put to death there. The lodge was the repository of the war bundles and the scalps, and was at times a general meeting place for the warriors of the entire tribe. Children and women were rarely admitted; menstruating or pregnant women never.

Although there are no customs and beliefs distinctive of the two classes, the clans have numerous ones. These consist, in addition to those enumerated above, of characteristic ceremonies at birth, at the naming of a child, at death, and at the burial and funeral wake of a clan member. One might also add a prohibition of certain clans belonging to different classes against intermarriage. From a theoretical point of view this is of the greatest importance. This prohibition to intermarry is considered almost as strong as that existing among the clans of the same class, because these former

¹This power is similar in all details, to the "soldier-killing" of the Dakota. Cf. Riggs, *Dakota Texts*, etc.

²*Fourteenth Ann. Rep. Bur. Amer. Eth.*, pt. I., pp. 73.

clans have been adopted by one another and are therefore related. Parallel to this prohibition, there is a tendency, that practically has the force of law, that a man belonging to the upper class must be buried by one of the lower class and vice versa.

If we were then to compare the clan organization of the Winnebago with that of the northern Siouans (Crow, Hidatsa, Mandan, and Dakota), the differences would be quite considerable, although the number of similarities would by no means be negligible. With the southern Siouans (Iowa, Oto, and Missouri), or the central Siouans (Omaha, Osage, and Kansa), the similarities in the clan organization are innumerable. On the other hand, the Winnebago clan organization is extremely like that of the central Algonquian. Indeed, in the relation of the Winnebago clan organization to that of these two areas lies the central problem of Winnebago culture.

Clan animal names and exogamy are other questions of fundamental importance in a study of Winnebago culture. None of the northern Siouan tribes possess animal clan or band names, and, while the southern and central divisions do possess them in part, they are for the most part descriptive animal epithets. Even among the Winnebago, where real animal clan names exist, some clans have non-animal duplicate appellations. Among the Central Algonquian, on the other hand, all the clans have animal names. Are we then to regard the central and southern Siouan clan names as typical of their culture, or must they be regarded as an element borrowed from the central Algonquian? There is much to be said for the former assumption, and something for the latter.

The question of the exogamic divisions gives us similar results, except that exogamy seems the exception among all the northern, southern, and central Siouan, although we find it among the Crow. It is universal among the central Algonquian. Here, again, it is impossible to determine whether we are dealing with a Siouan or a central Algonquian element.

The important point to be borne in mind is the fact that the area occupied by the Winnebago and their central Algonquian neighbors contains so many general cultural similarities that, crediting certain

characteristics to the possible influence of the one or the other cultural area can only then be legitimate when there is positive proof of such having been the case. Otherwise they should be assigned to their respective areas as of independent origin.

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TYPES OF NEGRITOS IN THE PHILIPPINE ISLANDS¹

By ROBERT BENNETT BEAN

THE Actas, or Negritos, of the Philippines have been studied at close range by Meyer, Montano, Reed, and others, and from a distance by many anthropologists. The Honorable Dean C. Worcester, Secretary of the Interior of the Philippine Islands, has visited the Negritos wherever in the archipelago they could be found; yet never before have they been classified into types, although at least three types are represented among them — three types that are the fundamental units of mankind — the Primitive, the Iberian, and the Australoid. The most plausible supposition to account for the three types among the Negritos is that the Australoid preceded the Iberian and Primitive, who have been incorporated with the Australoid as the result of recent or remote intrusions. By the workings of Mendelian heredity the kinky hair, black skin, and diminutive stature of the Australoid have obscured the characteristics of the other types.

This is the first study dealing with the ears and physical characteristics of the Philippine Islanders of the interior and is based largely on photographs in the collection of the Bureau of Science of the Philippine Government, and in the private collection of Mr Worcester, to whom I am indebted for access to both collections.

The Negritos are the first of the inland tribes selected for study, because they are relatively few in number and are undoubtedly becoming fewer, as they lose their purity when they come into contact with surrounding peoples. They were selected also because very few studies of Negritos have been made dealing with the physical characteristics of the living, and no previous study has been made of their ears; and, finally, because a large number of representative

¹ The photographs of the Negritos in this paper are reproduced with the permission of the Secretary of the Interior of the Philippine Islands and the editor of the Philippine Journal of Science, in which journal they were originally published.

photographs of Negritos from many parts of the islands could be obtained.

The photographs have been derived from several sources, taken at various times by different men. The photographs of the Negritos of Bataan or Mariveles mountain, of Isabela province, of Pampanga province, and some of those of Palawan island and elsewhere, were taken by Mr Worcester. The Negritos of Zambales were photographed by Mr A. Reed and others; those of Cagayan by Mr Charles Martin of the Bureau of Science: the Tinitian and other Negritos (Bataks) of the island of Palawan were photographed by Lieutenant E. Y. Miller while governor, and the photographs of the Negritos of the island of Panay, provinces of Antique and Capiz, and of Ambos Camarines, were taken by Mr M. L. Miller, Chief of the Division of Ethnology, Bureau of Science. These are groups from which photographs have been studied, with the addition of a few others from out of the way places in the Philippine Islands.

It is to be noted that Negritos still remain in the Philippine Islands, from Palawan in the south to the extreme northern end of Luzon. Not only is the distribution of the Negritos so general throughout the islands, but the types selected show a similar general distribution, although slight local resemblances exist. The Negritos of a single locality have evidently inbred, yet the probability of intermixture with the surrounding populations can in no instance be excluded.



FIG. 12.—The chief of the tribe of Negritos in the Mariveles mountain across the bay from the city of Manila. Australoid type.

MARIVELES NEGRITOS

The Mariveles Negritos appear to be the purest Negritos in the Philippines judging from the photographs available, and the chief of the tribe in the mountain across the bay from Manila is a typical Negrito of the Australoid form (see figs. 12 and 13). The head is



FIG. 13. — The same Negrito as in Fig. 12. Australoid type.

long and narrow, the face is moderately wide and short, the nose is large and straight, broad and heavy, but not flat and depressed like the nose of the Primitive, and the ear is a combination of Iberian and Primitive, the Australoid ear. The full figure of the Negrito chief is characteristic of the Australoid type. The extremities are long and the body is relatively short. The forearm and the lower leg appear to be unusually long, but no exact measurements were made. Measurements of the limb parts made on the photograph prove both the brachial index and the crural index to be high.

This type of Negrito is without doubt the true Negrito, and the greater number of Mariveles Negritos are of this type, which is also found wherever the Negrito exists in purity in the islands, espe-

cially in the northeastern part of Luzon along the shores of the Pacific ocean and in the adjacent mountains, which is the most unfrequented part of the archipelago, and the home of the largest number of pure Negritos in the Philippines.

The Primitive type is also found among the Mariveles Negritos, particularly among the women, and one of them, the most characteristic Primitive Negrito seen in the Philippines, is shown in figure 14.

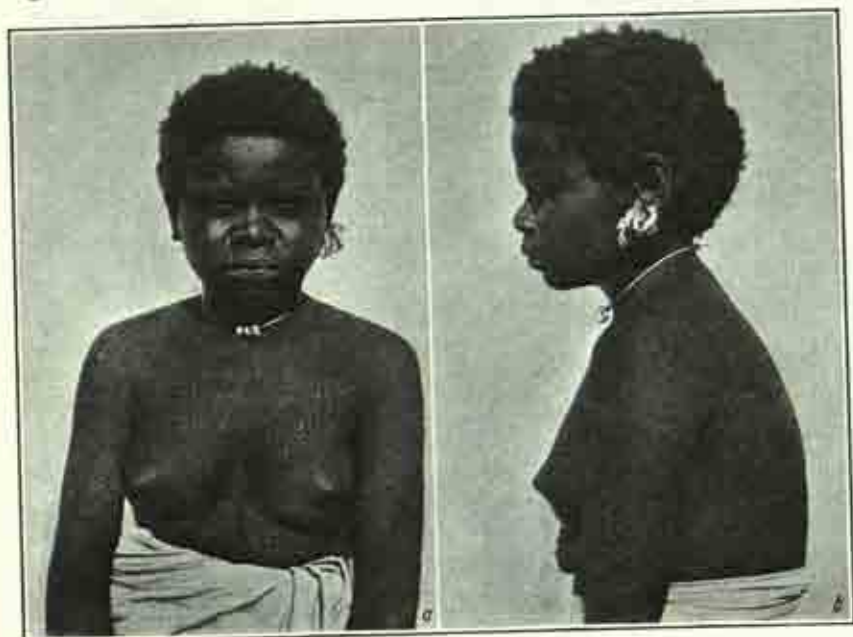


FIG. 14. — A young woman of the Mariveles tribe of Negritos. Primitive type.

In this individual the head is wide, the face is broad and flat, the nose is also broad and flat with depressed bridge and flaring nostrils that open forward rather than downward. The ears cannot be seen entirely, but the character of the visible parts justifies the conclusion that they are Primitive in form. The full lips and receding chin finish the infantile character-complex, and prove the type to be a Primitive.

The Iberian type is not found in pure form among the Mariveles Negritos but a few individuals have what may be called a degenerate

Iberian physiognomy. Such a Negrito is seen in figure 15. This man is considered by Mr Worcester to be a typical Negrito, and he is not greatly unlike "Ardi, one of the last of the Kalangs," whose picture is given on page 69 of *The World's Peoples* by Dr A. H. Keane; the ears of the two are almost identical in appearance. The head and face are long and narrow, the nose is neither flat nor large but rather thin and slender, and there is considerable facial prognathism, a characteristic of the Iberian. The



FIG. 15. — A Mariveles Negrito. Degenerate Iberian type.

ear is modified Iberian, with everted concha and turned out helix. The most plausible explanation of the presence of these two men, Ardi and the Mariveles man, among Negritos is that they represent a reversion to a remote cross of the Iberian with the Negrito.

ZAMBALES NEGRITOS

The Iberian type occurs in almost pure form among the Negritos in parts of the Philippines outside of the Mariveles group. A Negrito from Zambales of practically pure Iberian form

may be seen in figure 16. This man is so surely Iberian that were his skin white and his hair straight he might pass for a European. The forehead is vertical, the face long, thin, and slightly prognathous, the nose is slender and straight, and the chin is sharp. The ears are typical Iberian, with dependent lobule, everted concha, rolled out and spiral shaped helix. This man undoubtedly represents the result of a previous cross of the Negrito with an Iberian. It would appear from this combination of Iberian form and kinky hair that hair and physiognomy are separable characters in heredity and follow Mendel's laws, whereas the ear form and physiognomy hang together as a character-complex, although they, too, may be separable.

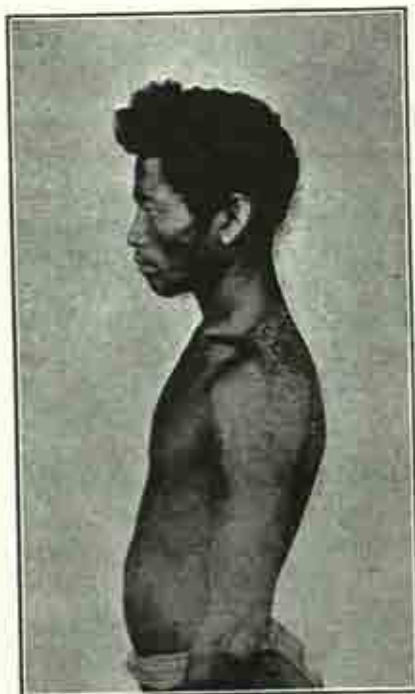


FIG. 16. — A Negrito man from Zambales. Iberian type.

The Primitive type is more prevalent among the Zambales Negritos than any other type, and more than in the Mariveles Negritos. A characteristic Primitive Negrito man of Zambales may be seen in figure 17. Notice the bowl-shaped ears, the broad, flat nose with flaring nostrils that open somewhat forward, the broad head and face, the full lips, and the small chin. The legs are short and the body relatively long; the hands and fingers are also short. Compare this Primitive Negrito with the Australoid shown in figure 12 and then contrast both with the Iberian Negrito in figure 18. Differences in the relative proportions of the limb parts, as well as other differences, may be noted. The Iberian has a long, slender nose, the Australoid a large, straight nose, and the Primitive a broad, flat nose. The face of the Iberian is long, that of the Australoid is oval, and that

of the Primitive is round. The Iberian has slender extremities and body, the Primitive is short and squat, and the Australoid is nearly all arms and legs, the body being relatively short.

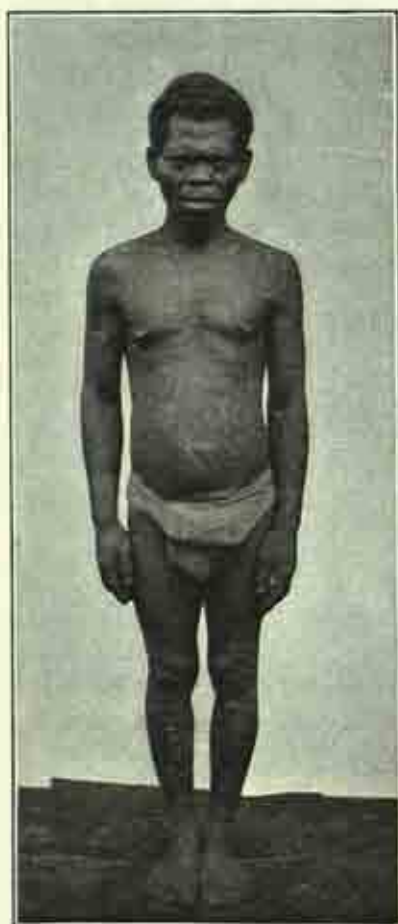


FIG. 17. — A Negrito man from Zamboanga. Primitive type.



FIG. 18. — A Negrito from Isabela province, eastern Luzon. Iberian type.

ISABELA NEGRITOS

While considering this Iberian Negrito from Isabela province it may be well to mention another Iberian Negrito, Pagatolan, a noted chief of that section of Luzon. Figures 20a and 20b are rather good

pictures of Pagatolan, who "has had three Albino children, two of whom are living and one of whom he has caused to be given Christian baptism. He states that God has been very good to give him white children, and that he proposed to send them to school."

This Negrito is decidedly Iberian. The long, straight, pointed nose, the pointed chin, and the square forehead are all evidences of the Iberian. Unfortunately the ears do not show well, although the lobule and lower helix and concha resemble the Iberian. The Albino children may be expressions of Mendelian heredity from a previous cross between a Negrito and a European.

The Australoid Negrito is the true type of eastern Luzon, and a sub-chief of this region as a representative of the type may be seen in figure 19. The Iberian and the Australoid Negritos are not greatly unlike each other, and this is particularly true of the limb and body parts and their relative proportions. It would seem that the Iberian and the Negrito (Australoid) have been fusing for a long time because the amalgamation of the two types is so nearly complete whereas the Primitive Negrito represents a more recent mixture. This may be emphasized by presenting the photographs of Negritos that represent recent mixtures with the surrounding population, all of such photographs exhibiting a blended condition with Primitive markings.

First, a group of women and children of Zambales province in figure 21 illustrates four grades of blends and shows how the kinky hair of the Negrito may become straight by continual intercrossing



FIG. 19. — A Negrito man from Isabela province. Australoid type.



FIG. 20. — Pagatolan, a Negrito chief of Isabela province. Iberian type.



FIG. 21. — A group of Zamboales Negritos of mixed blood. Modified Primitive type.

with the straight haired Filipino. All the individuals are modified Primitive in type.

Next a Negrito of Capiz (fig. 22), in the island of Panay, who has considerable Visayan blood, shows all the marks of a modified Primitive Filipino, with the wavy hair of a mixed Negrito.

The Negritos in the vicinity of the town of Tinabog, on the island of Palawan, are more numerous than in the other parts of the island, but they have mixed with the Visayans who inhabit the town of Tinabog. A representative of this class may be seen in figure 23. The Negritos of the island of Palawan are called Bataks, and this is a representative Batak man. Their peculiar method of shaving the head over the frontal region is noticed in this man who has a typical hair cut. The hair is wavy, a blended hair form, and the other characteristics are modified Primitive and Australoid.



FIG. 22. — A Negrito from Capiz, island of Panay, with considerable Visayan blood. Modified Primitive type.

There are Negritos in the Cagayan valley, the great tobacco growing district in northern Luzon, who probably belong to the Negritos of the eastern coast of Luzon. Those of the Cagayan valley have mixed with the Filipinos there, which is indicated by their curly hair and modified form. A striking illustration of this may be seen in the Negrito of figure 24 in the attitude of shooting an arrow from his bow. The trim form, and fine muscular development, especially of the back and arms, calls forth admiration. These Negritos can bend a bow with apparent ease that a white man unaccustomed to such a feat would be unable to bend.

Finally, Negritos are shown standing by the side of six foot



FIG. 23.—A Batak man of Tinabog, island of Palawan. Modified Primitive and Australoid type.

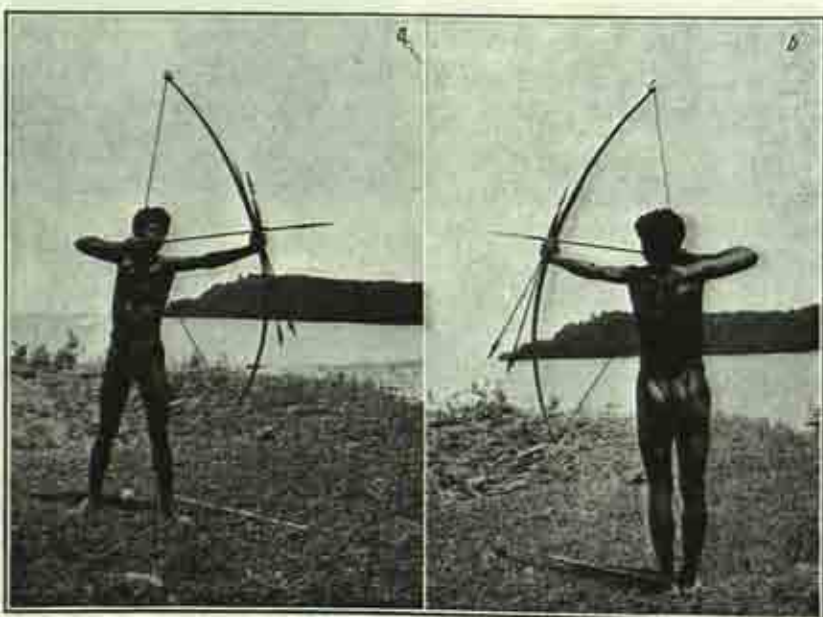


FIG. 24.—A Negrito of Cagayan province, northern Luzon. Blended hair form.

Americans to illustrate the relative size. In figure 25 a Negrito and a mixed Negrito of Zambales may be seen. Both the Negritos are modified Primitive in form, and the curly hair of the mixed Negrito



FIG. 25. —A pure Negrito and a mixed Negrito standing beside an American.



FIG. 26. —A mixed Mangyan Negrito standing beside an American.

indicates that hair form blends in a mixture. In figure 26 is shown a Negrito from the interior of the Island of Mindoro, who is not a pure Negrito, but mixed, as indicated by the curly hair.

DISCUSSION

Three possibilities in heredity are apparent from the study of the ears and physiognomy of the Negritos. First, there is blending in a cross of the Negrito with other types, and the production of a hybrid that has curly or wavy hair and modified Negrito physiognomy. Second, there is persistence of the type crossed with the Negrito, accompanied by kinky or wavy hair probably an exhibition of alternate heredity or Mendelism. Third there may be mosaics such as the Alpine, with the broad head of the Primitive, the narrow nose of the Iberian, and the kinky hair of the Negrito.

It remains to be determined exactly what takes place in the heredity of cross-bred races such as the European and Negrito, but the indications are that there is blended heredity, mosaic heredity, and alternate heredity with persistence of type which suggests Mendelian heredity. There exist among the Negritos forms of hair, nose, and ear, as well as other features of the physiognomy, intermediate at almost every conceivable point between the widest extremes, and the general effect is that of disorderly blending as represented previously by a scheme for heredity.¹

The origin of the Negrito may never be known, but it seems plausible that the Australoid is the true Negrito type on which the Iberian and the Primitive types have been grafted. The Iberian came from Europe by way of India in prehistoric migrations, and their combinations with the Australoid are represented by the Negritos of Mariveles Mountain and those of the eastern coast of northern Luzon. The Primitive came from the Orient and has mingled with the Iberian-Australoid Negrito throughout the Philippines, altering the form and straightening the hair of the purer Negritos that existed before. The more recent European contact with the Negrito has had very little apparent effect, although an occasional pure Iberian may be found with dark skin and kinky hair. The Negrito element has entered to a considerable extent into the present Filipino population, although it may not be recognized with ease because of the absence of kinky hair. The Negritos have been losing their identity by becoming incorporated into the body of the surrounding population. Where once the Negrito was found in all parts of the archipelago, the only remaining centers in which they exist in anything like their original purity are the two already mentioned, Mariveles mountain and the eastern coast of Luzon. In all other parts the kinky hair has practically disappeared and the Negritos have taken on the form of the surrounding population, distributing their own forms throughout the regions roundabout.

In this connection mention may be made of a Negrito of Cagayan (fig. 27) who is the village dude, and succeeded in straightening his hair by the consistent use of native oils. The unusual ex-

¹ Bean, R. B., *The Racial Anatomy of the Philippine Islanders*, 8vo. Lippincott, 1900.

pression of his countenance with straight instead of woolly hair may be seen. He is not a typical Negrito, although the nose is semi-Australoid and the ear modified Primitive.

The photographs of the Mariveles Negritos were all placed upon a large table before me, and when I scrutinized them carefully I realized that I was looking into the faces of a familiar people, among whom I was born and with whom I grew up, the American negro. Practically every face recalled youthful associations, and every individual of the Mariveles group has its counterpart among American negroes.

The photographs of the Negritos from other parts of the Philippines were likewise disposed upon a large table, replacing the Mariveles Negritos; the familiar faces of the homeland vanished, but in their places appeared the faces that one meets every day in Manila or in the provinces, familiar Filipino types. A few of them still resemble the American negro, which is particularly true of the Negritos of Isabela province.

These casual observations must be taken with reservation because no data can be given to substantiate them; but I believe they indicate a close relationship between the Negrito of the Philippines and the African Negro.

To summarize: The Mariveles Negritos who are apparently purer in type than any other group, and who are largely of the Iberian and Australoid types, have relatively longer noses, faces, and lower extremities than any other group of Negritos represented by photographs; the Zambales Negritos who are largely mixed and



FIG. 27.—A Negrito of Cagayan province with hair artificially straightened.

of the Primitive type, have relatively shorter noses, faces, and lower extremities than any other group; and the remaining groups, who are also much mixed and intermediate between the Iberian and the Primitive, have noses, faces, and lower extremities of intermediate length.

It would appear from the photographs that the purest Negritos are to be found in the Mariveles Mountains, and these Negritos are of the Australoid type. The Iberian characteristics are more or less pure in some individuals, the Primitive is more or less pure in others, but the greater part of them represent the type previously designated by me as Australoid, which is similar to that found among the Igorots and all the littoral Filipinos so far examined.

CONCLUSIONS

Any conclusions reached after a study of the photographs presented must be tentative and subject to revision. It does appear, however, that there are many inseparable factors in the composition of the individual, such as the ear form, nose and face form, and length of the extremities, that constitute a "character-complex" which exists as an entity and in inheritance may act as a unit character.

A "character-complex" is that group of characters, such as the broad head, broad nose, broad face, and characteristic ear, that, combined with small stature, constitute the Primitive species, which character-complex usually hangs together in heredity, but may break up when crossed with alien forms to create new character-complexes.

There is blending of one character-complex with another, but this blending probably does not take place at once upon crossing two extremely different character-complexes such as the Iberian and the Primitive, or the Iberian and the Australoid, but results in the reappearance of one or the other character-complex in pure form, as shown in figure 15, where the true Iberian has the kinky hair and dark skin of the Negrito Australoid.

From this follows the second conclusion, which is that the kinky hair is dominant over the straight hair when the cross takes place among the Negritos; therefore a character-complex may be obscured by the kinky hair, so that an otherwise pure Iberian may appear to be a Negrito because of the character of the hair.

The Negritos in the Mariveles mountain appear to be the purest Negritos in the Philippine Islands, judging from the photographs. All other groups of Negritos are more like the surrounding population. The Negritos of Mariveles should therefore represent the fundamental Negrito type, and as they are largely Australoid the fundamental type of the Negritos should be Australoid. Modified Primitive and modified Iberian Negritos are also found in the Mariveles group. The women are more Primitive than the men, who are more Iberian and Australoid than the women. The Primitive and Iberian characteristics of the Mariveles Negritos are of such a nature that they should be considered as remnants of the fusion that must have progressed for many centuries or even thousands of years to have produced so homogeneous a blend.

May it be presumed that the Primitive and Iberian types conjoined in prehistoric times at some place in the East of Asia or nearby, and produced by fusion the Australoid. From this union innumerable offshoots have sprung in Southern Asia, the islands bordering that region, and in Africa. The Primitive type remains pure in parts of the East, and the Iberian type in Europe. If this hypothesis be untrue, the reverse of it should be considered; viz. the Australoid forms the basic stock of all humanity, and the Iberian of Europe on the one side and the Primitive of the Orient on the other are derivatives. If neither hypothesis be true, at least the Negrito of Mariveles has Primitive and Iberian characteristics ingrafted from without.

My recent discovery of paleolithic man in the Philippines (*Homo Philippinensis*)¹ may throw light on the origin of the Australoid type among the Negritos and among the inland tribes as well as in the littoral population of the archipelago. *Homo Philippinensis* is Australoid in form yet somewhat different from the Negrito Australoid, the Igorot Australoid or the Australoid of the coast, but not so different as to preclude all relationship. *Homo Philippinensis* is also related to the earliest form of man in Europe, *Homo Mousteriensis*, and *Homo Heidelbergensis*; it is of the Neanderthal type, and is not greatly different from the Negro Australoid. The follow-

¹ Bean, op. cit.

ing hypothesis is plausible. Primordial man remained practically unaltered in form in Africa and the Pacific, and *Homo Philippinensis* is this unchanged form; but in Africa the kinky hair and black skin of the negro may be added features due to environment, and the Australoid Negrito is a further modification of the negroid form, due also to environment. Whatever the cause may be, there are at present three types found among the Negritos — the Australoid, the Primitive, and the Iberian; and these three types are found also among the other peoples of the Philippines wherever I have examined them. The Primitive and the Australoid, and doubtless the Iberian, are found in all the islands of the Pacific where search has been made and careful analysis of the people has followed, the first two types often among more or less pure Negritos.

The more profound the study, the more profound becomes the impression that the Primitive, the Australoid, and the Iberian are the three fundamental types of mankind.

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THE LITHOLOGICAL SECTION OF WALNUT CANYON, ARIZONA, WITH RELATION TO THE CLIFF-DWELLINGS OF THIS AND OTHER REGIONS OF NORTHWESTERN ARIZONA

BY H. W. AND F. H. SHIMER

INTRODUCTION

WALNUT Canyon, a short and narrow gorge, lies eight miles southeast of Flagstaff, Arizona (see fig. 28). It has been cut into a pine-clad, rolling plateau of upper Carboniferous (upper Aubrey) rocks to a depth of 380 feet. The lowest and uppermost beds are of sandstone; the rest, comprising most of the section, are alternating limestones and dolomites containing a variable amount of quartz grains, and it is in the lower part of this portion, about 150 feet above the bottom of the gorge, in which all the celebrated cliff-dwellings occur.

Cliff-dwellings occur rather abundantly throughout New Mexico, Arizona, and southern Utah, but probably the most accessible of those which are well preserved are these of Walnut canyon. They are within the San Francisco mountain forest reserve and are thus under government control and protection. A United States forest officer lives at the canyon.

This canyon empties its waters into the Little Colorado river to the northeast; but during the dry season water remains only in scattered basins, yet is comparatively good for drinking.

The region is rather arid, most of the rainfall occurring as very heavy showers during the late summer. During a shower the erosive power of the stream then flowing through the canyon is very great, carrying off the talus at the base of the walls, widening and also deepening the canyon. This annual undercutting of the walls causes them to remain very steep. Because of the aridity of the climate the valley walls are worn back with extreme slowness.

In the Grand canyon of the Colorado, and in the gorges at

House Rock valley the downcutting is more rapid, and consequently the habitable caves are fewer.

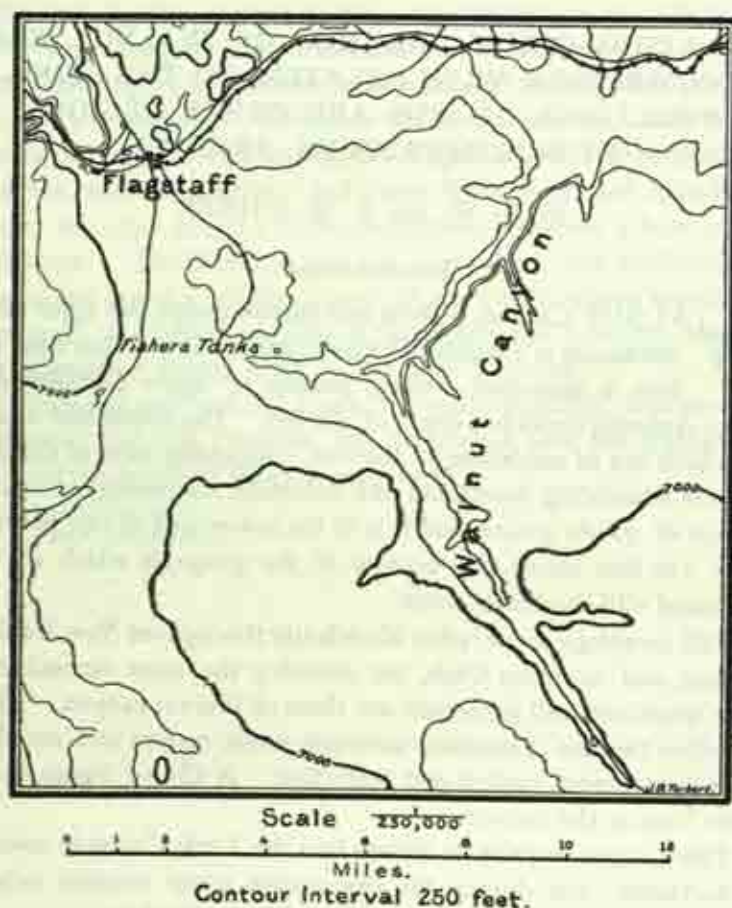


FIG. 28. — Topographic map of the Walnut canyon region; a portion of the U. S. G. S. San Francisco mountain sheet.

DETAILED LITHOLOGICAL SECTION OF WALNUT CANYON

The following is the detailed lithological section of Walnut canyon from the bottom to the top: it was taken at the foot of the upper trail, the one leading farthest east from the cabin of the forest reserve officer. The section there is quite accessible and is typical of the entire canyon where seen (see fig. 29).

1. Cross bedded sandstone.....75 feet

This forms the bottom and the narrowest portion of the canyon (fig. 30). The sandstone is light gray in color, and where exposed to the weather very long is friable. It is composed of pure quartz sand grains of a uniform size. The cementing material is largely calcareous.

2. Brownish-yellow sandstone.....10 feet.

The cement of these thin-bedded strata is mostly calcareous, to a slight extent siliceous and ferrous.



Fig. 29. — General view of Walnut canyon. The four prominent resistant zones are numbered.

3. Light gray sandstone.....12 feet.

This contains two thin brownish-yellow beds in the lowest three feet and a five foot one four feet from the top. The cement of the gray portion is dolomitic, effervescence occurring only in hot acid, and even then very slowly, leaving the scarcely diminished rock a mass of minute quartz grains. The uppermost one inch weathers back very readily; it has calcareous cement and effervesces very freely to a loose mass of rounded quartz grains. The entire zone is full of quartz concretions and geodes.

4. Yellowish limestone 15 feet.

Effervescence occurs very freely in cold acid leaving only a little residue of rounded to angular microscopic quartz grains. The limestone is very full of fragments of fossils. In the middle of this occur



FIG. 30. — Bottom of canyon showing the cross-bedded sandstone.

a 3- and a 6-inch band, about four feet apart, consisting of microscopic grained sandstone with much dolomitic cement; these weather back more readily than the remainder. The uppermost four feet is siliceous and very hard. The lowest foot and a half contain many quartz geodes.

5. Light gray limestone. 12 feet.

In cold acid this effervesces very rapidly and falls apart. The little residue consists of minute, angular, and rounded quartz grains with a much smaller amount of argillaceous material. The rock is full of quartz geodes and

concretions; the latter effervesce very slowly in cold acid, but, after boiling, the minute quartz grains are still held together by a siliceous cement. The concretions are merely portions of the rock mass hardened by the incorporation of magnesium and secondary silica as they contain quartz grains similar in amount and size to that in the rest of the bed.

6. Hard brownish-yellow dolomite..... 6 feet.

First resistant zone. This limestone is somewhat dolomitic and more resistant to weathering than zones 4 or 5 beneath or 7 and 8 above it. It thus projects as a conspicuous stratum. The dolomite contains more quartz grains than zone 5.

7. Soft, light gray limestone..... 11 feet.

Slope before first or lowest cave-zone. This limestone effervesces very freely to a small residue of rounded and angular microscopic quartz grains. Dolomitic concretions are quite abundant. This zone, intermediate in ability to resist the weathering agencies between zones 6 and 8, forms a slope between the two. Since there is a harder projecting 3-foot bed near the middle, it is upon the upper four or five feet of this slope over which runs the path before the dwellings of the first cave zone.

8. Grayish silicified dolomite and limestone..... 5 feet.

First cave zone. The lowest foot is highly silicified; when powdered it effervesces slightly in acid and leaves a mass of angular siliceous fragments among which are some quartz grains. This bed is very full of more highly silicified concretions and breaks into angular fragments at right angles to the stratification, or parallel to the weathering. The cause appears to be the compactness of the rock and the alternation of the day's warmth and night's cold. Alternate expansion and contraction of the compact siliceous dolomite thus caused is made non-uniform by the presence of the concretions. The rapid weathering back of this foot bed causes the upper four feet, a solid bed of slightly dolomitic limestone, to break off vertically into blocks. This is slightly reddish towards the middle and contains a considerable number of microscopic quartz grains. Since zone 9 is a solid stratum fifteen feet thick, it can withstand greater undermining before breaking off than is the case with this four foot bed; hence this latter becomes part of the cave. This cave zone is the most persistent and deeply weathered of the three, and here the vast majority of the dwellings are located.

9. Yellowish gray dolomite..... 15 feet.

Second resistant zone. This thick solid stratum projects as a very prominent ledge along the sides of the canyon forming the roof of the dwellings in the first or lowest cave zone (fig. 31). The rock is very

full of quartz geodes superficially reddish in color. The weathering out of the geodes gives to the face of this cliff a pitted appearance.

10. Gray dolomite..... 8 feet.

Slope before second or middle cave zone. Portions of this thin-bedded zone might be called a dolomitic sandstone as they are composed almost entirely of small, rounded to angular quartz grains with a dolomitic cement. The three inches of sandstone at the base



FIG. 31. — Near view of a cliff-dwelling showing its relation to the overhanging resistant zone (No. 2) and the pitted character of the latter.

of the upper foot contain concretions whose cement is mainly silica. The entire eight feet is very full of quartz geodes superficially reddish in color. The thin-bedded character and the comparatively easy loosening of the quartz grains cause this to weather back more rapidly than zone 9, but as it retreats less rapidly than bed 11 it produces a slope along which runs the path before the dwellings of the second cave zone.

11. Yellowish dolomite..... 5 feet.

Second cave zone. The basal foot is very full of concretions and weathers back more rapidly than the upper four feet, the two together forming this second persistent cave layer.

12. Yellowish dolomite..... 21 feet.

Third resistant zone. This consists of several distinct beds with

the lower half more resistant than the upper. Most of the zone is full of reddish quartz geodes. Four feet from the base is a layer of broad, flat, lens-like concretions an inch or more thick, consisting of small rounded quartz grains united by a cement partly dolomitic but mostly siliceous. Seven feet below the top is a three inch layer of gray sandstone, with a considerable amount of dolomitic cement; this weathers more rapidly than the remainder of the zone, but, protected as it is by the quite resistant and more heavily bedded uppermost seven feet, it may be considered as a part of this third resistant zone.

13. Gray limestone to yellowish dolomite..... 12.5 feet.

Slope before upper or third cave zone. The lowest eight feet is a soft gray limestone weathering back very rapidly so that it causes the stratum beneath to project as a platform. The next foot is full of concretions and weathers white, retreating more rapidly than the upper three and one half feet which is a harder, yellowish dolomite; this latter forms the base of the few low caves located here; in one instance noted this and the concretionary foot were weathered back with zone 15, forming quite a high cave.

14. Light gray dolomite..... 4 feet.

Third cave zone. The base is a one foot concretion bed; the entire layer is full of quartz geodes.

15. Yellowish gray dolomite..... 14 feet.

Fourth resistant zone. Two feet from the top is a six inch layer of pink sandstone composed of minute, rounded, quartz grains, held together by a dolomitic cement; and seven feet from the base is a similar brownish layer.

16. Grayish dolomite..... 20 feet.

This zone is composed of many distinct beds. The lowest foot, less dolomitic than the rest, weathers back more readily. The upper seventeen feet are quite light in color, the lower nine feet of which contain iron concretions ranging in diameter from one to seven and one half inches; these concretions consist of small rounded quartz grains held together with iron. Quartz grains are very abundant throughout this entire horizon.

17. Grayish limestone..... 38 feet.

This thickness of limestone is thin-bedded, and contains an

abundance of minute fragments of fossils and a small number of microscopic quartz grains. Nine feet above the base occur many large siliceous concretions.

18. Dolomite and limestone.....67 feet.

This thickness is an alternation of yellowish dolomite and gray to yellowish limestone; beginning at the base with dolomite the thicknesses are 3, 9, 8, 5, 11, 31 feet. Each of these weathers into thinner beds because of the varying amount of quartz grains and the apparently consequent greater or less degree of dolomitization. As a rule the limestones are full of minute fossils or fragments of fossils while the dolomites are barren; also the limestones contain very few quartz grains, while the dolomites enclose a considerable but varying number up to about 50 per cent. or more of the rock mass.

This zone 18 takes us to the top of the steeper portion of the canyon walls.

19. Gray to brown sandstone.....20 feet.

Sloping up from the top of the canyon walls proper to the wagon trail on the surface of the plateau occurs this 20 feet of thin bedded sandstones. This was not noted in a continuous exposure but occurs as a succession of ledges with the intermediate spaces of two or three inches covered with soil; this soil is probably underlain by more highly calcareous bands. This sandstone is solidified by a cement, partly ferrous, but mostly calcareous. The larger sand grains become more numerous in the topmost beds, the grains here averaging .2 mm. in diameter; these uppermost beds show cross bedding.

THE CLIFF-DWELLINGS AT WALNUT CANYON

It is in the cave-like groove formed by the erosion of the softer rock between two of these resistant beds that the cliff dwellings occur, the vast majority being about 150 feet from the bottom of the gorge. This long cave layer extending along the steep side of the canyon is divided into separate dwellings, usually with no connecting doors, by transverse walls built out from the back to the front of the cave.

One house of average size measured 15 feet in length, 10 feet in width or depth, and from 7 feet in height at the front to 4 feet at

back. The floor was made approximately level by filling in the down-sloping front part with mortar. The front of the house is an artificial wall two feet thick built of native rocks of varying sizes joined by a yellowish-brown mortar of rather coarse sand such as is found in the bottom of the canyon. The stones are laid with a somewhat rough, perhaps accidental, approximation at breaking joints and the wall is even and straight along both the inside and the outside surface. This front wall reaches from the floor to the overhanging ledge and is pierced at center by a door nine inches wide at base, which though now broken away above, was probably originally less than five feet high. Against the roofing-ledge directly over the door is a round hole of four inches diameter, apparently a smoke outlet. The transverse walls forming the ends of the house are similar in thickness and material to the front wall which they join at a right angle.

Only rarely was there noticed an opening leading from one house directly into the adjoining. In one case such a connection was effected by a hole three feet high by two feet wide, its top being a flat piece of wood with ends embedded in the wall extending beyond it on each side.

That the fire was built in one of the back corners of the house was evidenced by the soot on the adjoining walls and roof and the presence of charred corn cobs, bones, and bits of wood.

Fragments of pottery indicating vessels of many sizes and shapes from jars to platters are extremely abundant both in and about the houses, but especially on the slopes in front. These ancient tenement dwellers apparently found the narrow streets before their houses as great a convenience into which to throw waste as did the ancient Romans described by Juvenal; in either case the danger from falling pottery was probably at times very real.

The pottery is made of a coarse sandy clay. The most common ware is of a gray color with roughly geometric designs upon the outside in black; those of red and black are comparatively rare. Second in abundance is the type in which the coiled structure appears on the surface, the coils being pinched down with the fingers.

Occasionally flat stones with raised sides, probably for grinding corn, are found in the dwellings. Of three such stones noted, two were of red sandstone and one of lava. Arrow heads of black

obsidian and many chips of the same material were seen on the slopes before the houses.

On the cross-bedded sandstone in the base of the canyon, on the sides of a pot hole, was seen some pictorial writing quite similar to that in the petrified forest at Adamana and at Willow Springs.

A hundred yards back from the cliff and near the end of the upper trail are the ruins of a house. These consist of blocks of stones in low lines of irregular height, usually no more than a foot, but preserving the outline of the outside and the dividing walls. No two stones in place one above the other were noticed. The house is 14 feet wide and 36 feet long, extending in a north-south direction. It is divided into two parts, each 14 by 18 feet. A pine tree 67 inches in circumference at base now stands just within the southwest corner of the house. There is not much pottery around the house, but about 50 feet northeast of it the ground is covered with many such fragments among which were noted a few arrow heads and chips of obsidian.

Another house of one room about 9 by 9 feet was found about a third of a mile southwest of the forester's cabin. It is not so well preserved as the preceding, but the outlines of the walls can be made out. According to the resident forester at the canyon there are many such houses scattered over these uplands.

CLIFF-DWELLINGS OF OTHER LOCALITIES IN NORTHWESTERN ARIZONA.

This feature of horizontal alternating soft and hard strata is constant over wide areas in Arizona, New Mexico, and Utah. But in most places water was too distant, erosion too rapid, or the resistant beds too thin to give either a cave of sufficient depth or the water to make it habitable. No dwellings were noted along the two trails traversed in the Grand canyon of the Colorado river, though a few caves of sufficient depth and height for habitation were noted.

In a small canyon cut into the eastern side of the Kaibab plateau, near House Rock ranch and opening upon the southern end of House Rock valley, several well preserved dwellings were found, as follows:

1. 30 feet above the bottom of the canyon. Semicircular with

floor flat, but roof and sides arching like a quadrant of a sphere. Diameter 8 feet, height from 0 to 1 foot in back, sloping up to 7 feet at the center of the semicircular entrance. On one side the encircling rock forms the bounding wall out to the edge of the slope, and on the opposite side a wall 5 feet long lay in ruins a foot high.

2. Nearly opposite 1 and worn out of the upper part of the same stratum. Apparently of same dimensions and shape, but with a wall built parallel to the front instead of at right angles as in 1. The wall now extends only half way across the front and judging by the straightness of its free edge never extended farther.

3. The largest cave of the three and that first seen on the left upon entering the canyon. The whole dwelling seems originally to have included nearly all the space under the huge cliff that extends about 30 feet in length and about 15 feet out over the eroded bed below. At the lower end of this 30-foot cave are the ruins of a wall extending from front to back. At the other end the cliff rock itself arches around in such a manner as to form the side wall; from this extends lengthwise a well preserved artificial wall extending to the roof; it is about 3 feet long by 3 feet high. Its free edge is comparatively straight and there are no ruins of a former extension; yet its present shape would offer but little protection.

Pottery fragments, bones, and burned stones were found.

It thus appears that the dwellings here could have been used only temporarily as none would have given sufficient protection for a permanent dwelling.

On the sides of Jacob's canyon upon the western side of the Kaibab plateau, and near its exit upon Kanab plateau, the upper Aubrey is very similar in bedding and lithology to that of Walnut canyon; the caves are, however, less pronounced and more like those of the Grand canyon. No dwellings were noted.

There are a few cliff dwellings in the upper Aubrey of the gorge cut into the western edge of the Uinkaret plateau at the Hurricane fault. This is just south of the village of Hurricane Bench, Utah.

CONCLUSIONS AND SUMMARY

In this semi-arid region the wind and also the great variations in temperature between night and day enter as factors in erosion, the

latter causing vertical shaling of such a very compact siliceous bed as the lowest foot of zone 8, the former carrying off the loosened, dry sand grains and thus presenting fresh surfaces to weathering agencies.

The rocks at the base of the Walnut canyon section are thick, cross-bedded, pure sandstones. These change suddenly into evenly bedded strata with much calcareous cement, though still sandstone, probably representing the transgression of the sea upon an area of sand dunes. The lime content increases through zone 3 and in zone 4 becomes a limestone, though a solution of this still leaves a small residue of microscopic quartz grains.

From here through 238 feet to the uppermost beds (zone 19) there is an alternation of limestones and dolomites many times repeated, but all enclosing a varying amount of rounded to angular, usually microscopic, quartz grains; it is notable that there is an almost complete absence of argillaceous material. Alternating with these strata, and occurring at intervals throughout the entire thickness of limestones are several thin bands of sandstones with a calcareous or dolomitic cement. The limestones usually consist almost entirely of small marine fossil fragments, and leave after solution in acid a very small residue of quartz grains; the dolomites, usually granular, and with few or no fossils, contain a varying amount of quartz grains, probably averaging 30 per cent. to 50 per cent. of many of the beds. It was thus seen that it was the more porous strata which became dolomitic, the purer, less porous limestones remaining free from dolomitization; but the pure sandstones vary in having either a calcareous or a dolomitic cement.

The uppermost beds of the section (zone 19,) are again a series of unfossiliferous sandstones like the base of the section, though less heavily bedded, and showing much less cross-bedding.

The 238 feet of calcareous beds lying between the cross-bedded sandstones at the bottom and top of the canyon walls are more heavily bedded in their lower portion, becoming quite thin-bedded towards the top. These rapidly alternating dolomites, limestones, and calcareous sandstones are quite variable in their resistance to weathering; the more resistant remain as ledges projecting out over the relatively softer undermining bed below until the weight becomes

too great for the bed to support when they break off and roll down into the gorge. Since the thinner resistant beds would break off through less undermining than the thicker it is naturally in the lower portion of these calcareous beds where the strata are more heavily bedded that the caves occur. There are here four quite thick resistant beds; the lowest one occurs a short distance above the cross-bedded sandstone and has no caves of habitable size beneath it, but it forms the basement upon which is developed the lowest cave zone, the most persistent of the three prominent zones, and the one containing the vast majority of the hundreds of cliff dwellings located in this portion of the canyon. The second resistant bed, the one capping and forming the roof of these caves is the most conspicuous stratum above the cross-bedded sandstone. The other two resistant beds though prominent features in the canyon walls are much less so than the second, and from here to the top of the gorge no single bed or union of beds is of sufficient thickness to protect caves deep enough for dwellings.

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THE PRIMITIVE MALAY MARRIAGE LAW

By CHARLES SUMNER LOBINGIER

IN the evolution of the human marital status institutional writers¹ distinguish three stages, (1) wife capture, (2) purchase, and (3) mutual assent. These several stages while normally sequent may, nevertheless, be contemporaneous, not only as between peoples of different culture states, but even among the same people. Among the Moros of Mindanao, e. g., the first stage survives, but our earliest glimpse of most Malay tribes, at least in the Philippines, finds them in the second stage.

Not to mention the Negritos² and their cousins, the Bataks of Palawan, with both of whom outright purchase of the wife appears to be the rule, and who, though not Malay, have not improbably been influenced by the customs of their earliest neighbors; the Tagbanuas Apurahuanos, a highly primitive Malay tribe of central Palawan, appear to be still in the purchase marriage epoch. As described by an observer who spent years on the island, the family of a suitor "according to its circumstances, will send to the family of the chosen one a ring of gold, silver, or copper, an unmistakable sign that the family begs the hand of the woman,"³ and the fathers of the two will later "unanimously decide the conditions of the wedding and the quantity of the *bandi* which the family of the bride desires."⁴ *Bandi* appears to be a general term for compensation, and we have, in the transaction thus described, all the essential preliminaries of the purchase marriage.

THE TAGALOGS

Our earliest detailed information regarding the customs of this most conspicuous of the Malay tribes in Luzon, if not in the entire

¹ Howard, *Matrimonial Institutions*

² My authority as to the Negritos is Mr W. Huse Chapman of the Bureau of Education, who was at one time stationed among those of the Pampangan hills and knows their customs from personal observation. Cf. Reed, *The Negritos of Zambales*.

³ Venturello, *Manners and Customs of the Palawan Tribes, Smithsonian Miscellaneous Collections*, vol. 48, pt. 4, pp. 548-9.

⁴ *Ibid.*, 529.

archipelago, is found in the *Relación* of Fr. Juan Plasencia which appeared in 1589. In his description of their marriage customs the following passages occur :

" *Dowries* are given by the men to the women's parents. If the latter are living, they enjoy the use of it. At their death, provided the dowry has not been consumed, it is divided like the rest of the estate, equally among the children, except in case the father should care to bestow something additional upon the daughter. If the wife, at the time of her marriage, has neither father, mother, nor grandparents, she enjoys her dowry — which, in such a case, belongs to no other relative or child."

" In the matter of marriage dowries which fathers bestow upon their sons when they are about to be married, and half of which is given immediately, even when they are only children, there is a great deal more complexity. There is a fine stipulated in the contract, that he who violates it shall pay a certain sum which varies according to the practice of the village and the affluence of the individual. The fine was heaviest if, upon the death of the parents, the son or daughter should be unwilling to marry because it had been arranged by his or her parents. In this case the dowry which the parents had received was returned and nothing more. But, if the parents were living, they paid the fine, because it was assumed that it had been their design to separate the children."¹

Fr. Plasencia doubtless viewed these customs in the light of those with which he was familiar at home and applied what he considered corresponding terms ; but it seems clear that what he calls " dowry " was merely the consideration for the bride and that the purchase marriage was in full vogue among the Tagalogs of his day.

OTHER TRIBES

Another early observer of Malay customs in the Philippines, even before Plasencia, was Loarca who wrote in 1582. Speaking of the " Pintados " (Bisayans) he, too, mentions the " dowry," which he also calls " earnest-money," and which he says among the chiefs is generally " one hundred taes in gold, slaves and jewels "² and which he elsewhere says³ belongs to the father of the bride until children are born to the wedded pair. He also mentions the " dowry "

¹ Plasencia *Relación*, translated and reprinted in Blair & Robertson's *Philippine Islands*, VII, p. 173 *et seq.*

² Loarca, *Relación*, *Ibid.*, V, p. 141 *et seq.*

³ *Ibid.*

as in vogue among the Moros and says that it is forfeited by the groom's wrongful repudiation of the marriage and that the wife, upon leaving the husband, must return the "dowry" and, if he have committed adultery, double the amount.¹

PAYING THE PRICE IN LABOR

The custom of a suitor serving the parents of his intended bride for a period more or less long before marriage is very ancient and widespread. We are all familiar with the story of how Jacob served Laban for fourteen years in order to claim the hand of Rachel.² This, like other tales of the Old Testament, probably presents a very faithful picture of early Hebrew customs and typifies those in vogue among other primitive peoples. Curiously enough, we find this archaic practice persisting in the Philippines³ up to the present day and prevailing before our eyes. It is reported, not only among the non-Christian Igorots of Bontoc,⁴ and Nueva Vizcaya,⁵ but also among the Tagalogs,⁶ the Pangasinanes,⁷ and the Bisayans of Bohol⁸ and Leyte.⁹ Further investigation would probably reveal it in many other quarters, and it appears to be the survival of what was once a nearly, if not quite, universal custom. It appears not to be in vogue now among the Benguet Igorots.¹⁰

POLYGyny

That polygyny was in vogue among the primitive Malay appears to be certain. While Plasencia in writing of the Tagalogs does not

¹ Ibid.

² *Genesis*, XXIX, 16-20, 30.

³ "The bridegroom was also required to work for the parents of the bride during several years after marriage. He must assist them at seed time and harvest, and on other occasions. Many laws were made by the Spaniards to stop this practice, but it lasted long after they came." Jernigan, *History of the Philippines* (1904), p. 16.

⁴ Jenks, *The Bontoc Igorot*, p. 68.

⁵ Reported by the late Governor Knight.

⁶ Sawyer, *Inhabitants of the Philippine Islands* (1900), pp. 218, 219.

⁷ Reported by an American resident of the province of Pangasinan.

⁸ Reported by Mr H. L. Noble, formerly Division Superintendent.

⁹ While the writer was presiding judge of the 12th judicial district two cases came before him in the Court of First Instance for the province of Leyte, where disappointed suitors were seeking to recover the value of services rendered fathers of their intended brides.

¹⁰ According to Mr Claude R. Moss of the Bureau of Education.

refer to polygyny by name, he speaks of the *inaasava* or plural wives,¹ and several of his passages indicate the existence of polygynous relations. The Moros of Mindanao and the Sulu group² still practice polygyny as do likewise the Tagbanuas Apurahuanos of Palawan,³ the Bataks of the same island,⁴ and the Negritos.⁵ Among the Igorots, at least those of Bontoc and Benguet, the practice appears to have fallen into disuse, although a closer knowledge of their past would probably reveal it, and it is reported⁶ from Benguet that a system of progressive polyandry prevails, to a limited extent, among the Igorots of that region.

Polyandry is practiced among the Bataks of Palawan⁷ and they are said to be the only people, except the Tibetans, where it is in full vogue.

The general existence of polygyny at so late a period not improbably accounts for the still widely prevalent *querida* system in the Philippines.

PROHIBITED MARRIAGE

In one respect this primitive Malay marriage law is more strict than that of even the most civilized nations. Marriages between near relatives are generally prohibited, and at least among the Igorots⁸ and among the Tagbanuas Apurahuanos of Palawan⁹ this is so extended as to include first cousins. With the last named tribe incest — i. e., the non-observance of these restrictions — "is the most serious of all crimes and merits the severest punishment."¹⁰

¹ *Relación*, Blair & Robertson's *Philippine Islands*, VII, p. 173 *et seq.*

² Islam has here preserved a system which was in vogue long before.

³ Venturello, *Manners and Customs of the Palawan Tribes*, *Smithsonian Misc. Coll.*, 48, pt. 4, pp. 518, 530.

⁴ *Ibid.*, p. 549; Miller, *The Bataks of Palawan*, p. 184.

⁵ Polygynous families among the Negritos have been pointed out to the writer by Mr. W. Huse Chapman. Cf. Reed, *The Negritos of Zambales*.

⁶ By Dr C. M. Morgan, Superintendent of the Government Stock Farm at Trinidad.

⁷ Miller, *The Bataks of Palawan*. Cf. Venturello, *Smithsonian Misc. Coll.*, 48, pt. 4, p. 522.

⁸ Jenks, *The Bontoc Igorot*, p. 68. Mr Moss in reporting for Benguet says: "Marriage is prohibited between ascendants, descendants, uncles and aunts with nieces and nephews. While marriage between first cousins is discountenanced, there is no inflexible custom against. One of the most influential men of Buguias, 'Tostos' is married to his first cousin."

⁹ Venturello, *Smithsonian Misc. Coll.*, 48, pt. 4, p. 520.

¹⁰ *Ibid.*, pp. 520, 521.

CELEBRATION OF THE MARRIAGE

As among most primitive peoples, the Malay marriage is not usually complete without a ceremony. Such a conception as the "common law marriage" belongs to a much later stage and is, in fact, not recognized under any system of law prevailing in the Philippines. Among the Bontoc Igorots the ceremony consists in the bride and groom eating rice together¹ much after the manner of the Roman *confarreatio*. The Tagbanua marriage is thus described by Venturello,² who further says³ that the same is also in vogue among the Bataks (probably borrowed):

"When the wedding day has arrived the family of the bridegroom and all the old people of the rancheria meet in the house of the bride, taking hither all the necessary articles for the celebration of the wedding such as pangasi, boiled rice, fish, delicacies, etc. When all is ready the babailan will officiate. If, however, there be no babailan among them, an old man of the rancheria who possesses the friendship and confidence of the two families will act as a substitute. The officiating one having previously placed in a cup or small hole in the ground a certain amount of cocoanut oil, will turn his eyes to the heavens in a supplicating manner and will pronounce the following words of the ceremony in Tagbanua:

"Way ini ytaonga magasaua "Darait" ipagpanauag canimo ay pa buegayan mo naga sira et magayen nga pag asaua at maruay nga panulos et mas que uno unong caquenán nira."

"Being translated: 'Here are those who are married "Darait" unto thee we recommend them in order that thou givest to them a happy union and the facilities to hunt and to meet with those things which are necessary for their life, their prosperity, and their well being.'

"This being said, he will then place his thumb in the vessel containing the oil and will anoint with it the fore-finger of the groom, touching it from the end of the finger down to the pulse and saying the following words in Tagbanua: 'Apiat magayen nga palad,' which is to say, 'May your good fortune ascend.' Afterwards, placing the palm downwards, he will again anoint the same fore-finger, beginning at the pulse and thence to the tip, saying words very similar to the above and which signify 'May your bad fortune descend.' The bride is similarly anointed. After this ceremony the padrinos (best man and bridesmaid) of the newly wedded pair prepare two plates of boiled rice. Each one

¹ Jenks, *The Bontoc Igorot*, p. 68.

² *Smithsonian Misc. Coll.*, 48, pt. 4, pp. 529, 530.

³ *Ibid.*, p. 549.

will make a ball of rice the size of a hen's egg and hand it to their respective proteges who receive it with great attention and presently exchange it with one another, so that the groom gives his portion of boiled rice to the bride who immediately gives hers in exchange."

This ceremony is probably typical of many prevailing among the primitive tribes,¹ and its elaborateness indicates the importance attached to the event and to the consequent status.

DISSOLUTION

Nevertheless the primitive Malay marriage appears nowhere as indissoluble. Divorce is usually authorized for adultery.² Plasencia indeed tells us that among the primitive Tagalogs an adulteress "was not considered dishonored by the punishment inflicted nor did the husband leave the woman."³ But elsewhere he speaks of divorce, indicating that it was rather loose, since he alludes to cases where "the wife left the husband for the purpose of marrying another."⁴ Among the Benguet Igorots the wife may likewise be divorced for laziness, for possessing a quarrelsome disposition,⁵ and apparently for barrenness.⁶ Indeed, it seems that the last is a ground in most cases, for it is reported⁷ that "divorce is not very common if children have been born."

¹ Cf. the following from Loarca: "While the betrothed pair are drinking together an old man rises, and in a loud voice calls all to silence, as he wishes to speak. He says: 'So-and-so marries so-and-so, but on the condition that if the man should through dissolute conduct fail to support his wife, she will leave him, and shall not be obliged to return anything of the dowry that he has given her; and she shall have freedom and permission to marry another man. And therefore, should the woman betray her husband, he can take away the dowry that he gave her, leave her, and marry another woman. Be all of you witnesses for me to this contract.' When the old man has ended his speech, they take a dish filled with clean, uncooked rice, and an old woman comes and joins the hands of the pair, and lays them upon the rice. Then, holding their hands thus joined, she throws the rice over all those who are present at the banquet. Then the old woman gives a loud shout and all answer her with a similar shout, and the marriage contract or ceremony is completed."

² Tagbanaas (*Ibid.*, p. 522); Igorots (Moss). Venturello further says (pp. 539, 553) that the husband (and among the Palawanos any relative) may slay the offender.

³ *Relación*, Blair & Robertson, VII, p. 173 *et seq.*

⁴ *Ibid.* This probably refers to divorce by consent which, according to Mr Moss, is also in vogue among the Benguet Igorots.

⁵ According to Mr Moss.

⁶ According to Dr Morgan.

⁷ By Mr Moss. He adds: "In such cases the mother keeps the small children and the others decide as to whether they will live with the mother or father."

Regarding the disposition of the property upon divorce the same authority says :

"If the property is held in common, which is generally the case if there are children, it is divided either by the parties themselves, or in case of disagreement by the leading men of the town. The one who keeps the children gets the larger part of the real property. The woman always gets the house. Personal property is divided equally."

Apparently there was more consideration for the children in such cases among the primitive Tagalogs, for according to Plasencia :

"When the husband left his wife, he lost the half of the dowry, and the other half was returned to him. If he possesses children at the time of his divorce, the whole dowry and the fine went to the children, and was held for them by their grandparents or other responsible relatives."¹

On the other hand :

"In the case of a divorce before the birth of children, if the wife left the husband for the purpose of marrying another, all her dowry and an equal additional amount fell to the husband ; but if she left him, and did not marry another, the dowry was returned."²

But with the Benguet Igorots :

"In case of divorce where no children have been borne, there is no trouble concerning the property division as husband and wife keep their property separate until the birth of children. A reason for this can probably be found in their rules of inheritance."³

MANILA, P. I.

¹ *Relación*.

² *Ibid.*

³ Mr Moss.

THE ISLAND OF SACRIFICIOS

By ZELIA NUTTALL.

1. HISTORY OF THE ISLAND OF SACRIFICIOS

THE low, sandy coral island, named "of Sacrifices," situated in latitude $19^{\circ} 10'$ north, longitude $96^{\circ} 6'$ west of Greenwich, lies at a distance of three miles to the southeast of the port of Vera Cruz. It is a mile and a half long, and its utmost width is three quarters of a mile, but it and the adjoining reefs afford absolute safety and protection from the much-dreaded "northers."

In the course of centuries innumerable vessels from all parts of the world have taken refuge and found safety at anchor off the south coast of this insignificant but most useful little islet, which can boast, moreover, of a strange and interesting history.

The account of its discovery written by Juan Diaz, the chaplain of the fleet of Juan de Grijalva, the precursor of Cortés, is so graphic and minute that it should be read in as literal a translation as I can offer, which is as follows :

" . . . Arriving near the hills, we found ourselves at the extremity of a small island, which lay about three miles distant from said hills. We cast anchor and all landed on this islet which we named Island of the Sacrifices. It is a small island and has a circumference of about six miles. We found thereon some very large buildings made of mortar and sand¹ and a detached building of the same material, the structure of which resembled that of an ancient arch that is in Merida. We also found other buildings, on foundations, which were as high as two men, were ten feet wide and very long. There was another edifice made like a round tower, fifteen paces in diameter. On top of this there was a column like those of Castile, surmounted by an animal resembling a lion, also made of marble. It had a hole in its head in which they put perfume, and its tongue was stretched out of its mouth. Near it there was a stone vase containing blood, which appeared to have been there for eight days. There were also two posts as high as a man, between which were stretched

¹As will be shown later on, the chaplain evidently referred to the kind of cement, made of mortar and coarse sand, with which the walls of the buildings were finished.

some cloths, embroidered in silk, which resembled the shawls worn by Moorish priests, and named 'almaizares.'

"On the other side there was an idol, with a feather in its head, whose face was turned towards the aforesaid stone vase. Behind this idol there was a heap of large stones. Between the posts and close to the idol were the bodies of two Indians of tender age, wrapped in a painted blanket. Behind the stretched cloths there were the bodies of two other Indians. These seemed to have been dead for about three days while the first mentioned appeared to have been dead for twenty days. Close to these dead bodies and the idol there were many skulls and bones; also a quantity of bundles of pine wood and some wide stones, on which they had killed said Indians.

"There were also an 'higuera' tree and a tree which they call 'zuara' and which yields fruit.

"After the captain and his men had seen all this, the former wished to be informed whether it had been done as a sacrifice, and sent to his ships for an Indian who was a native of this province. On his way to where the Captain awaited him he suddenly swooned and fell, thinking that he was being brought to be killed. When he reached said tower the Captain asked him why such deeds were committed there and the Indian answered that it was done as a kind of sacrifice and gave to understand that the victims were beheaded on the wide stone; that the blood was poured into the vase and that the heart was taken out of the breast and burnt and offered to the said idol. The fleshy parts of the arms and legs were cut off and eaten. This was done to the enemies with whom they were at war.

"While the captain was thus speaking a Christian disinterred two jars of alabaster, worthy of being presented to the Emperor and filled with many kinds of stones. Here we found much fruit, all of which was edible.

"On the following day we saw, on the main land, many persons with banners and the General sent the Captain Francisco de Montejo in a boat, with an Indian from that province, to ascertain what they wanted.

"When Francisco de Montejo arrived, the Indians gave him a number of very beautiful blankets, of many kinds and colors. He asked them whether they had any gold and offered barter or exchange. They answered that they would bring him some in the afternoon. He then returned to his ships. In the afternoon three Indians came in a canoe, bringing blankets like the others. They said they would bring gold on the following day and left. On the following morning they appeared on the shore with white flags and began calling the Captain. He landed with a certain

number of men and the Indians carried many green boughs for him to sit on and he and all of them seated themselves.¹ They presented him with some reeds filled with certain perfumes, resembling the gum-storax and benzoin and, immediately afterwards gave him, to eat, much ground maize (which is the root of which they make bread), also cakes and very well prepared pies with chicken. Being Friday they did not partake of the latter. The Indians then brought them many cotton blankets very well painted in a variety of colors. We remained thus for ten days and every morning before dawn, the Indians were on the beach making arbours so that we could be in the shade. They became angry if we did not go to shore early for they bore us very good will, and they embraced and feasted us.

"We appointed as cacique, one of them, named Ovando, giving him authority over the others and he showed us such affection that it was marvellous. The Captain told them that we wanted only gold, and they answered they would bring some, and, on the following day, brought gold cast into bars. The Captain told them to bring more of them. The next day they came with a very beautiful mask of gold; a small figure of a man wearing a gold mask; a crown made of gold beads and other jewels and stones of various colors. Our men asked them for native gold and the Indians showed them some and told them that it came from the foot of the coast range, because it was found in the rivers which had their source in the mountains. An Indian could leave here and reach the source by midday and have time, before dark, to fill a reed as thick as a finger. In order to get the gold they had to go to the bottom of the water and fill their hands with sand in which they searched for the grains which they kept in their mouths.

"From the foregoing it is believed that there is much gold in this country.

"These Indians melted gold in a pot, in whatever place they found it, making use of cane reeds as bellows to light the fire. We saw them do this in our presence. The said cacique brought a boy aged about twenty-two years as a present to our Captain, but he would not accept him. . . ."²

Next in value to the preceding description by the eye-witness Chaplain Juan Diaz, is the account given by Gonzalo Fernando de

¹This distinct statement at first hand and the context of this and Oviedo's version, which will be referred to further on, establish the fact that the Indians appeared again with banners on the shore of the mainland and not "on the shore of the island" as Oviedo wrote, making use of Grijalva's diary.

²Itinerary of Grijalva in *Documentos para la Historia de Mexico*. Icazbalceta, vol. 1, pp. 281-308.

Oviedo, Chronicler of the Indies, who states that it was based on the certified copy of the diary or official report made by Juan de Grijalva, as chief of the expedition, to Diego Velasquez, the Governor of Cuba.

The latter entrusted Oviedo with the report which he conveyed to Spain "to communicate the news of the discovery to the king of Spain" and to incorporate in his History.¹

While Oviedo's version usually agrees with Chaplain Diaz's account it shows some evidences of having been compiled at second hand. It furnishes us, however, with the fresh and important detail, that "after the Captain General, Juan de Grijalva, had landed on the island, he went by a road lined with trees, some of which appeared to be fruit trees, and perceived some ancient stone buildings, like walls, which time had caused to fall, in some parts, into ruins. And, at about the center of the island there was an edifice that was rather high, to which he mounted by stone steps."²

Oviedo also furnishes us with the record that it was on the little island that Grijalva, addressing the Chief Pilot, Antonio de Alaminos and surrounded by the other captains, Pedro de Alvarado, Alonso Davila, and Francisco de Montejo, and the chief members of his fleet, held a consultation with them as to the probability that "the great country before them was terra-firma, and not an island," and that, this being the case, it was his wish and intention to land there on the very next day and, in the name of Diego Velasquez, the Governor of Cuba, take possession of it for their Majesties and Spain—which he did. The fact that this epoch-making and picturesque episode took place on the island invests it forever with a particular and romantic interest.

Thirty years after the episode related above and when his memory was somewhat dimmed the doughty old soldier Bernal Diaz described his first view and recollection of the island as follows:

"And, sailing on along the coast, we saw, at what appeared to be about three leagues from the mainland, a small island swept by the waves, whose sandy beach appeared white. We gave it the name of Isla de Blanca (White island) and it figures thus in the sea charts.

¹ *Historia General de las Indias*, Sevilla, 1535, lib. XVII, cap. XVIII.

² The buildings on the island and their descriptions by the different authorities will be minutely discussed further on.

"Not very far from the white islet, we saw another, about four leagues distant from the coast, on which there were many green trees, and we gave it the name of Isla Verde (Green island), and sailing further on we saw an island somewhat larger than the others, at about a league and a half from the mainland. In front of it there was a good anchoring and the General gave orders to cast anchor. The boats were lowered and Juan de Grijalva and many of us soldiers went to see the island, because we saw smoke thereon.¹

"We saw two houses built of mortar and well cut stone and in each house some stairs by which one ascended to what were like altars and on these altars they had some idols of evil shape which were their gods, and there we found five Indians who had been sacrificed during the preceding night. Their breasts were open; the flesh had been cut from their arms and thighs and the walls of the houses were covered with blood. This filled us with great wonder and we named this islet the Island of Sacrifices and it appears thus in the navigation charts. Opposite to the said island we all landed and made a settlement, building huts with branches and the sails of the ships. Many Indians came and collected around us on the coast bringing gold, made into the form of small fishes. . . ."²

The island and the bay of Sacrificios, as Grijalva named his place of anchorage between the island and point Mocambo on the mainland, was undoubtedly pointed out to Cortés by the members of the previous expedition when he first saw the land he was to conquer, on Holy Thursday, in April, 1519.

Although it is recorded that he and his fleet cast anchor under the small island of San Juan de Ulua, it may safely be assumed that he and his companions, with Doña Marina and Aguilar, trod the island of Sacrificios and visited its temples during the following months.

We have positive knowledge that on Cortés' return from Honduras, on May 24, 1526, "he reached the port of Medellin [named after his native town], situated in front of the island of Sacrificios, and ordered the fleet to anchor there that night."³

¹ Neither Chaplain Diaz who wrote down his descriptions at once nor Oviedo who copied Grijalva's diary mention smoke having been seen, nor was any living person found on the island.

² *Bernal Diaz del Castillo*, translated from ed. G. Garcia, 1904, Cap. XIII, p. 40.

³ *Bernal Diaz del Castillo*, Chap. CXC; cf. *Cartas y Relaciones de Hernan Cortés*, ed. Gayangos, p. 370.

The foregoing accounts of the discovery of the island of Sacrificios with which I have long been familiar led me not only to take a particular interest in the islet but also to make a special note of any scattered data concerning it that I came across in the course of my readings.

By combining these I have been able to make what is, of course, a very incomplete reconstruction of its varied history, but may be found of interest and use for purposes of reference.

The island is in a way associated with the most stirring episode that has probably ever been enacted in the Gulf of Mexico, namely the desperate sea-fight between the future naval heroes of England, Hawkins and Drake, and the Spaniards.

With unparalleled treachery, after an exchange of hostages and a written, signed, and sealed pact of peace, the Viceroy Martin Enriquez and his forces attacked the English ships anchored off the island of San Juan de Ulua, only two of which escaped and reached England. It was on the evening of the 23d of September, 1568, after a hard day's fight, that John Hawkins made his escape on the *Minion*, followed by Drake in the *Judith*, and passed out into the open sea between the reefs that make this coast so dangerous. Hawkins relates how, "the next morning we recovered an island a mile from the Spaniards, where there took us a north wind and, being left only with two anchors and two cables, we thought always upon death which was ever present . . . the weather waxed reasonable and the Saturday (25th) we set sail."¹

Job Hortop, a gunner and one of Hawkins' men, more clearly states that they "anchored with two anchors under an island, the wind being northerly, which was wonderfully dangerous and we feared every hour to be driven with the lee shore."²

There can be no doubt that it was under the lee of the island of Sacrificios that the *Minion* and its unhappy crew spent nearly forty-eight hours in the depths of misery, the ever-present danger being that, if the anchors broke loose, the vessel would be wrecked against the rocks of Punta Mocambo or the adjacent mainland.

¹ Depositions in the English Admiralty Court.

² See for the Hawkins' Depositions and Hortop's Travels an English Garner, *Voyages & Travels*, vol. 1, edited by C. Raymond Beazley, New York, Dutton & Co.

It is interesting to reflect that the first of the many British vessels which found hospitable shelter and safety under Sacrificios was none other than the *Minion* an old war-ship which had belonged to the navy of Henry VIII,¹ whose heart-broken captain was destined to be, a few years later, one of the conquerors of the Invincible Armada.

Through Henry Hawks, the English gentleman and merchant, who had the courage to venture into Mexico three years after the Hawkins' episode (and had serious cause to rue his temerity), we learn that, for some time previously, the Spaniards had made use of the island as a convenient place of lading, but that in 1572, when he wrote, it was being avoided as it was believed to be haunted by "spirits of devils."²

It seems probable that these evil spirits were no other than fanatical priests of the old religion who continued to frequent the temples on the island, perhaps performing, as of old, their religious rites and sacrifices.

The island was of course too valuable a convenience to be long abandoned, especially as the Spaniards could employ effective means to exorcise evil spirits—the easiest being the destruction of the images and of the temples. By a lucky chance I came across an old document which establishes the date when the structures on the island were destroyed. Like the whole town of Vera Cruz and the Castle of San Juan de Ulua they must have been built of coral, the *Madripora meandritis*, of which the lime, locally used for mortar, is also manufactured.

On March 15th of the year 1590 the engineer Juan Bautista Antonelli who, in consequence of the John Hawkins' episode, had been sent by the king of Spain to repair and defend the port of

¹ During a recent visit to Cambridge, England, in the famous Pepys Library preserved at Magdalene College, I enjoyed seeing a water-color painting of the *Minion*, in the contemporary illustrated list of Henry the VIIIth's navy contained in "Anthony's First Roll."

² "There is another Island there by, called the Island of Sacrifices, whereas the Spaniards did in times past unlade their goods: and for that, they sayd, there are upon it spirits of the devils, it is not frequented as it hath bene." A Relation of the Commodities of Nova Hispania, etc., by Henry Hawks, merchant, 1572, in *Hakluyt's Collection of Early Voyages*, London, 1810, vol. III, p. 549.

San Juan de Ulua, reports his estimate that at least one thousand fanegas¹ of lime could be obtained from the island of Sacrificios.²

This doubtless meant that between 1590 and 1599, when Antonelli returned to Spain, the great walls and the structures described by Juan Diaz, Bernal Diaz, and Oviedo were almost entirely destroyed to obtain lime and for the banishment of inconvenient and malignant "spirits."

During the next two centuries the island undoubtedly played an important part in many a piratical venture and buccaneering expedition, was trodden by travellers from many lands, extended the hospitable shelter of its lee to many a vessel which had barely escaped the dangers of its much-dreaded reefs, and was the theater of many an untold romance and tragedy.

In 1806 it was the scene of one of the most cruel deeds in the history of piracy in Mexico. The Spanish corsair, Nicolás de Agramonte, after sacking the town of Vera Cruz, carried off more than seven millions of pesos, and three hundred men and women whom he landed and abandoned on the desert island of Sacrificios. I have not been able to find any record establishing whether all died of starvation or whether some, at least, were rescued.

On the 2d of March, 1823, after being nearly lost on the reefs, the vessel which conveyed the English traveler and writer, W. Bullock, F.L.A., (who describes himself as "Proprietor of the late London Museum"), "anchored between the Isle of Sacrificios and the mainland. This little island, not more than half a mile in length, is now," he says, "a mere heap of sand, with only one wretched Indian family living upon it. . . ."

"There are still vestiges of ruins. . . . The island is strewn with the bones of British subjects who have perished in this unhealthy climate and whose remains are not allowed to be buried in consecrated ground.

"Yet 'one frail memorial still erected nigh' indicates the spot where a recent interment had taken place (only a few months since)."³

¹ A fanega is about 110 lbs. weight.

² *Documentos Inéditos*, ed. Mendoza, tomo 13, p. 549.

³ *Six Months' Residence and Travels in Mexico*, London, 1824, p. 10.

Two years later, in a letter dated May 25, 1825, the Italian traveler, J. C. Beltrami, gives an equally dismal but different account of what he describes as "a little island, or rather a sand-bank, situated one mile from the mainland whither its garrison were obliged to go to obtain its supply of bad water." From Beltrami we learn that a military camp had been established on the Sacrificios by the Republican Mexicans, with a small fleet, the aim of which was to blockade the fortress of San Juan de Ulua, which was held again in that year by the Spaniards, who were kept supplied with ammunition and provisions by English and Anglo-American ships. Beltrami adds "that the Spanish garrison of Ulua ridiculed the camp on Sacrificios and took satisfaction in observing how the climate and the burning sun, which converted the sandbank into a glowing furnace, played greater havoc amongst the Mexican soldiers than they could ever accomplish with their cannon, the ammunition for which they therefore saved."¹

In Madame Calderon de la Barca's delightful book, "Life in Mexico" (London, 1843, p. 423), she also records that in 1824 the "Mexican fleet was stationed off the island of Sacrificios and other points, to attack any squadron that might come from Spain."

In 1827 the Mexicans began to construct a small fort on the island and in laying its foundations, at a depth of six feet, vases of white alabaster were found²—this being an interesting repetition of the finding of similar vases by one of Grijalva's men.

According to Isidro R. Gondra it was also in 1827 that Señor Luna, a citizen of Atlixco, made an excavation in the island and discovered a number of vases of different sizes and bizarre shapes, amongst which was one of tecali or Mexican onyx. This vase, which is remarkable because it has a tube carved in its interior, is minutely described by Gondra and will be discussed further on. The same writer relates that, "after Señor Luna, the Minister of Finances, Sr. Dn. Ignacio Esteva and others," made successful excavations on the island. He expresses his surprise that so many objects should be found "in such a limited space which shows no indications of the existence of large ruins such as would reveal that

¹ J. C. Beltrami, *Le Mexique*, Paris, 1830, vol. II, p. 251.

² See Note of M. de Baradère in Dupaix, *Antiquités Méxicaines*, Paris, 1834, tome I, p. 35.

some great temple had been there,"¹ a remark showing how much the ancient buildings had been destroyed in Antonelli's manufacture of lime for San Juan de Ulua. The two clay vases, drawn and published by Count de Waldeck,² doubtless came from the Luna excavation, as did "the many vases of tecal" seen by Madame Calderon de la Barca at the Museum in 1830.³

A traveler named Ottavio mentions in 1883, from hearsay, that "remains of the ancient temple are visible on the island of Sacrificios."⁴ In Paris, in 1834, Dupaix published M. de Baradère's note on the island, which has already been quoted above.

Next in chronological order are the following interesting accounts of the island, and its exploration by Captain Dumanoir in 1841, given by Brantz Mayer in his "Mexico as it Was" (published in 1853, pp. 93-97) and in "Mexico, Aztec, Republican, etc." (vol. II, p. 272).

"It is well known to all who have read the history of Mexico that at the period of the Conquest by Cortés this island was a spot sacred to sepulture and sacrifice. Owing to the inertness of the Mexican Government, no thorough exploration has as yet been made, but it has been left to the enterprise of Commanders of vessels of war who, taking advantage of their detention at anchor under the lee of the island, have rummaged the sands in search of Indian remains, which have been carried to other lands and are thus forever lost to Mexico.

"In 1841, Mr. Dumanoir who commanded the French corvette *Ceres*, undertook to explore the island. Previous to this time it had been trodden by thousands of idle sailors and landsmen who raked its surface for the Indian relics of pottery and obsidian which lay scattered in every direction; and, consequently, there was little of value to be discovered above ground. In the centre of it, Dumanoir discovered sepulchres, the bones of which were in admirable preservation, vases of clay adorned with paintings and engraved; arms; idols; collars; bracelets; teeth of dogs and tigers, and a variety of architectural designs. In one place he found a vase of white marble and, in the Museum at Mexico, there is now preserved another, also found at Sacrificios, of which the following is the classic shape and adornment."

¹ Notes by Isidro R. Gondra in Ignacio Cumplido's edition of W. H. Prescott's *History of the Conquest of Mexico*, Mexico, 1846, vol. II, pp. 82-87.

² *Monuments Anciens du Mexique, Palenque*, etc., pl. XLIX, Paris, 1866.

³ *Op. cit.*, p. 219.

⁴ *Nouvelles Annales de Voyage*, vol. IX., p. 64.

The drawings of this and other vases of tecalli and of clay from Sacrificios, which were published by Brantz Mayer, will be discussed further on and are produced in plates VII-IX.

Following close upon Captain Dumanoir's exploration was that of Captain Evan Nepean, the commander of an English man-of-war, from whom, in 1844, the British Museum purchased a large collection of antiquities from Sacrificios, which are described in *Archæologia*, vol. XXX, pp. 138-339. I am indebted to Colonel F. H. Ward for having kindly made a selection of twenty-two of the most interesting specimens of the Nepean collection, as well as of two tecali vases purchased in 1851 from Lieutenant T. Forrest, and for having had them photographed for me, for publication in this paper.

To conclude the sketch of the history of Sacrificios it should be stated that its center is now occupied by a lighthouse which, with two tall palm trees, constitute the only salient features of the low sandy stretch which has been experimentally planted with the native cane and a few shrubs. A bungalow and outhouse were erected on the eastern shore of the island to serve as an isolation ward connected with the hospital in Vera Cruz for patients suffering from contagious diseases. It could not, however, be used on account of the distance from Vera Cruz, because in rough weather the island is practically cut off from all communication with the mainland. Its inhabitants now consist of the lighthouse keepers and their families. An obelisk marks the spot where, at the south of the island near the landing place, are buried the remains of a great number of Frenchmen who died of yellow fever at Vera Cruz and on the island during the French occupation. The bones of the "heretical" Englishmen rest, I am told, in the northern part of the island and, I regret to say, not even a cross marks the place of their burial. It is strange how, during the course of centuries, the history of the island seems always to have been tragic and associated with some form or other of human suffering and death.

2. THE ANCIENT TEMPLES ON THE ISLAND OF SACRIFICIOS

Thanks to the detailed descriptions we owe to Juan Diaz, Grijalva, Oviedo, and Bernal Diaz, we can form some idea of the buildings that once existed on the island, although some points concerning them must necessarily remain obscure.

The position they occupied seems evident enough. Grijalva and his companions doubtless disembarked at the south point of the island under the lee of which their vessels lay at anchor, which seems to have always been the most accessible and convenient landing-place and is still used as such.

Walking necessarily due north "through a road with trees on either side," they came to what Grijalva in his official report, transmitted by Oviedo, described as "ancient stone buildings, like walls (*ardaves*), ruined by Time and partly fallen in." Now, the Hispano-Moorish word *ardave* is the synonym of *muro entero*, and ordinarily designated a rampart or massive embattled wall surrounding a city or fort for defensive purposes.

The late Mexican Minister at Brussels, Nuñez Ortega, a distinguished scholar, took it for granted that the walls like "ardaves" on Sacrificios must have had battlements, and points out in this connection that the ancient walls surrounding the temple at Cozumel, and also a wall depicted in the Codex Aubin, were also embattled.¹

Grijalva's record, therefore, that the ruins were like "ardaves," unquestionably implies that they were large and massive, like city walls.

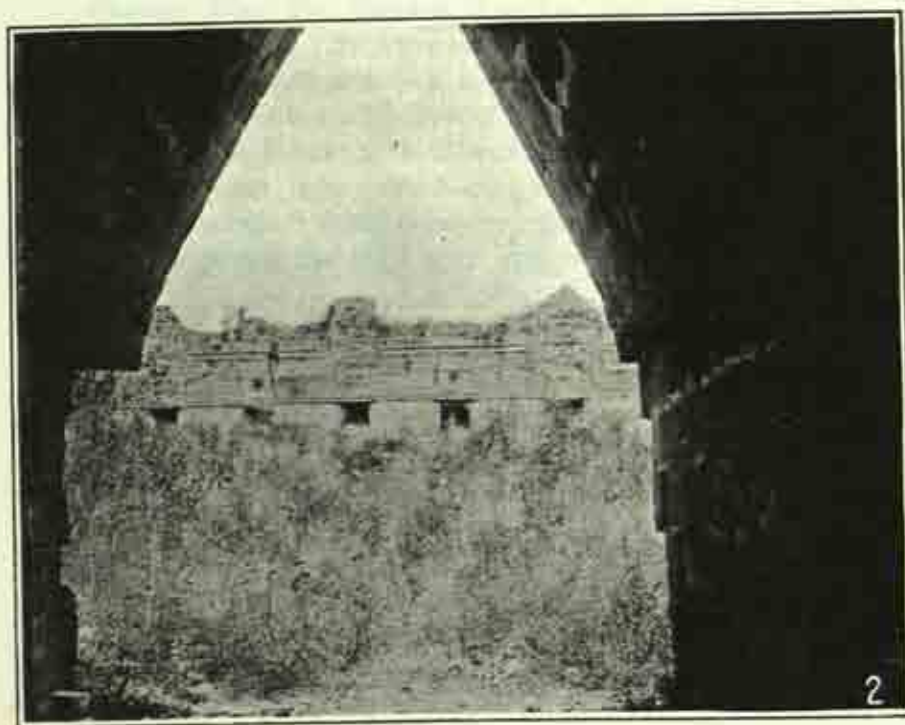
Chaplain Diaz, like Grijalva, describes first in order, "very large buildings," and "the fragment of a structure, similar in construction to an ancient arch that is in Merida."² The Merida referred to is in Spain, in the Province of Badajos, Lower Estremadura, and is the ancient Roman town, Emerita Augusta.

Amongst other remarkable Roman ruins, it still boasts of the "Arch of Santiago," dating from the reign of Trajan. This arch is 44 feet high and has long been stripped of its marble casing.³

¹ *Varios Papeles sobre cosas de Mexico, El Sitio de Vera Cruz*, Bruselas, 1885. This article was written for the purpose of proving that it was the mainland opposite to the island of Sacrificios and not the site of the present Vera Cruz that was known as Chalchicucan. While I think that he established this interesting fact, I cannot accept his view that the temples on Sacrificios were principally dedicated to the water goddess, Chalchihuitlicueitl, because, in the first case, all testimony agrees that the idol on the temple represented a male divinity, and that the only other sculptured figure seen was that of a tiger. If the image of a goddess had been there, it would, undoubtedly, have been observed and mentioned.

² The Spanish word employed, *trozo*, means a detached part of something, a remnant, fragment, also remains.

³ See *Encyclopædia Britannica*, article Merida.



MAYA ARCHED GATEWAYS

1. Arch at Labna. 2. Arch in the Casa de Monjas, Uxmal.

Chaplain Diaz, who evidently had an antiquarian's eye, and not only closely observed but also measured the structures on Sacrificios, was probably familiar with the Roman ruins at Merida. If not, there was Pedro de Alvarado, a native of Badajos, who may have been the one to make the comparison. The foregoing trustworthy records establish the existence on the island, in 1518, of ancient, very large and massive walls, and of a broken or fallen-in arch comparable to a Roman arch 44 feet high.

It is an interesting fact that, in order to match in size and form the ruins described, we must go to Yucatan's ruined cities, via the island of Cozumel, and not to the mainland adjoining the island.¹ A glance at plate IV will show that, a few years hence, when the great arched gateways of the temple-courts of Uxmal and Labna² will have fallen in, nothing being done now to preserve them, and the stone carvings on the walls have dropped to the ground, their dismantled masonry may also be aptly compared by some travelers to the mediæval rampart and gateway of some Spanish town, by others to a ruined Roman arch of noble proportions.

After having respectively described, as above, the first structures, ancient and ruined, that met their gaze as they walked toward the center of the island, Grijalva and Chaplain Diaz mentioned the buildings in actual use.

One was evidently a raised terrace or pyramid, described as "very long," its "foundation," base, or lower terrace being about 11 feet (two men) high and 10 feet wide. A flight of stone steps led to its summit. The second was a circular structure "like a tower," the diameter of which measured 15 paces. It is obvious that a flight of stone steps must have also led to the top of this circular platform on which stood the stone "lion" and idol, the victims, etc.

¹ See the archway in quadrangular ruin in the village of Cedral, Cozumel island, which is 10 feet high to the cap stones, 6 feet wide, and 8 feet 10 inches through from outer to inner face, pictured and described by Prof. Wm. H. Holmes in *Ancient Cities of Mexico*, vol. I, pp. 67-69.

² According to Stephens, who does not give their exact height, which appears to be about 20 feet, the width of the Uxmal gateway is 10 feet 8 inches and that of Labna 10 feet. See *Incidents of Travel in Yucatan*, London, 1843. Special attention is called to the drawing of a gateway at Labna in vol. II, p. 54, which appears to answer somewhat to the description of the Sacrificios ruins.

Bernal Diaz, who not unreasonably used the word "altar" to describe the place where the victims were offered, speaks of two such altars. This statement can be reconciled with Chaplain Diaz's account if we assume that the skulls and bones, the bundles of wood, and the sacrificial stones, which the latter describes separately, were placed on the platform of the square pyramid, probably near the high circular place of offering. It seems but rational to assume that the victims must have been sacrificed on the more spacious square terrace and that their remains were then carried and offered to the idol on the high circular platform. That the idol represented Quetzalcoatl there can be no doubt, for the circular form was that characteristic of the temples of this divinity. Moreover, the frescoed wall I recently discovered on the island, with a representation of a feathered serpent, which I believe to be a part of the round temple, furnishes a convincing proof that at all events one temple on the island was dedicated to the cult of Quetzalcoatl, either as "god of the winds," as "the personification of the planet Venus," or as "culture hero." The only other image mentioned was that of a kind of lion, *i. e.* an ocelot. This stood on a column "at the head of the stairway," and like the idol faced the stone basin containing the offering of human blood. It would therefore seem as though the effigy of the ocelot shared equally the worship accorded to Quetzalcoatl.

The Codex Fuenleal records the tradition that Tezcatlipoca, the brother of Quetzalcoatl, had assumed the form of an ocelot, and that the memory of a fight between the brothers is recorded "in the heavens, as a constellation of Ursa Major . . . is Tezcatlipoca."¹

The same codex relates also that "the two gods, Tezcatlipoca and Quetzalcoatl, converted themselves into two great trees—the first into a tree named Tezcaquahuitl; the second, into a tree named Quetzalhuesuch." It would seem as though the two trees described by Chaplain Diaz as being "also there" where he saw the sacrificial stones, skulls and bones, etc., may have had some connection with this ancient tradition. Some botanist would help to solve this question by identifying the "zuara" fruit-tree, mentioned by the chaplain

¹ *Historia de los Mexicanos por sus pinturas, Nueva Coleccion de Documentos*, J. G. Icazbalceta, vol. III, p. 233, Mexico, 1891.

and ascertaining the native name of the "fig-tree" (of the Indies) that he mentions.

Reviewing the testimony of the three eye-witnesses, it seems quite certain that they found on the island two groups of buildings, the first described as ancient, in ruins, and of impressive size, suggesting to one witness a massive city wall, to another the remains of a great arch, which in its construction resembled a Roman arch 44 feet high.

The second structures in actual use consisted of a very long and "rather high" terraced pyramid, with stone steps leading to the top, and a circular, massive structure like a tower, which served as an altar, as on it lay the bodies of the victims in front of the idol; the ocelot, on a column standing close by. It is a remarkable fact that the Spaniards did not meet a living being on the island; nor did the observant chaplain mention even traces of human habitation, which he certainly would have done if such had existed.

On the other hand the existence of trees, which yielded a plentiful supply of fruit, appear to indicate that at some previous time the island had been inhabited and its soil cultivated.

In 1518 the island was still unquestionably a place of great sanctity whither, in boats, the dead and those destined to die were conveyed for burial or sacrifice.

3. RESULTS OF A BRIEF PERSONAL INVESTIGATION OF A PORTION OF THE ISLAND

Accompanied by my friend, Mrs H. P. Hamilton, I went to Vera Cruz, on December 23, 1909, expecting to take the steamer for Tampico on the 25th. A heavy norther had, however, been blowing and our steamer was consequently delayed at a southern port and could not reach Vera Cruz at the appointed time. As soon as I found that we were obliged to spend some days in Vera Cruz, I took steps to realize the wish I had long had to visit the island of Sacrificios. As soon as the weather permitted, Señor Nicolau, the Director General of Light-houses, with his usual courtesy placed the government launch at my disposal, and, with the Sub-director, Señor Meneses, and a small party of friends, amongst whom was Señora Miramon de Duret and her family, escorted us

to the little island on December 27th. The keen interest with which I approached this will be understood by those who have become acquainted with its history through the preceding pages.

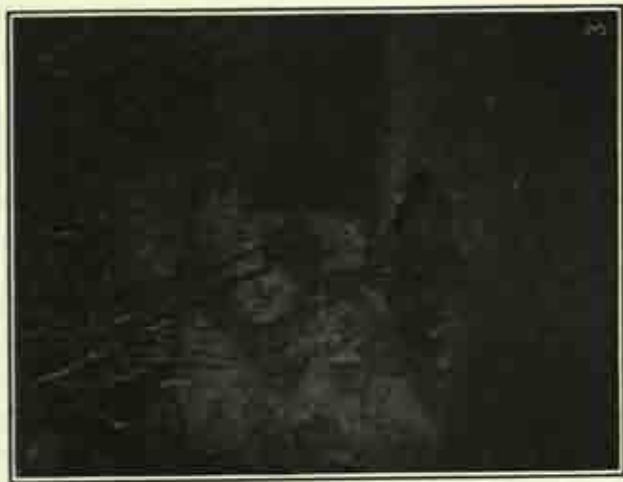
The first object of interest that attracted my attention after landing at the southernmost point of the island was, opposite to the pier and close to the sandy beach, the remnant of an old wall built of the *Madrepora*. An examination of this convinced me that it belonged to the fort constructed in 1827 by the Republican Mexicans.

A pathway running directly north with a slight ascent and bordered by rows of recently planted shrubs and trees led us to the center of the island which is about 15 feet above the sea-level.¹ Seated on the verandah of the small lazareto, the former isolation station, I questioned Director General Nicolau, Director Meneses, as well as the resident guard and light house keepers, as to the existence of vestiges of ancient buildings on the island. Señor Nicolau assured me that, although he had been constantly obliged to visit the island for fifteen years past he had never seen or heard of prehistoric remains thereon. On the other hand all informed me that fragments of pottery abounded and they very kindly presented me with some that had recently come to light.

Returning to the southern shore I walked for a short distance eastward on the sands, which were strewn with water-worn fragments of *Madrepora* such as had been used in building the fort. Carefully examining the bank of sandy soil which rises from 6 to about 11 feet above the shore, I noticed, almost at sea-level, numerous fragments of ancient pottery, and also found such on the sands. On re-embarking, after the necessarily short stay on the islet, I expressed the wish to return and more thoroughly explore the bank on the eastern shore. The western shore, being low, did not appear to me as promising.

Two days after, our steamer being still delayed, Mrs Hamilton

¹ Beltrami (op. et loc. cit.) remarked that, if ordinary Atlantic tide conditions prevailed in this region, the island would be under water twice in twenty-four hours and soon disappear altogether. As it is "the tide once in twenty-four hours usually rises from 1½ to 2 feet. In October and at the equinoxes and solstices it rises from 2½ to 3 feet only. The succession of the tides is curiously irregular; during the summer the flow is in the morning and the ebb in the afternoon, whereas, in the winter, the opposite takes place." Antonio G. Cubas, *Diccionario Geograf. Hist. y Biogr. Mexico*, 1891.



ANCIENT RUINS, ISLAND OF SACRIFICIOS

1. Exposure of wall showing plaster covering upon which is painted three sections of the body of the Feathered Serpent, Quetzalcoatl. 2. Relative position of lower and upper cement floors (latter just below cross). 3. A fresco which has been partially covered by the upper cement floor. (From photographs by Z. Nuttall.)

and I returned to the island for the day, accompanied by Señor Meneses, two government engineers employed in the coast survey, and the Misses Fortuño y Miramon. In order to be able to make any clearance that I might find necessary, I had brought two peons, armed with spades and pick-axes, from Vera Cruz.

This time I again went eastward then northward along the eastern shore, carefully inspecting the high bank, overgrown with the *otote* or native bamboo. The first interesting find was made by Mrs Hamilton, who excavated from the bank a small fragment of a clay vessel decorated with a human face. The next was mine, of a partly imbedded thick layer of burnt lime—possibly marking one of the spots where, in former times, lime was manufactured. Further on I perceived, slightly above sea-level, where the bank had partly fallen in, fragments of cement floors and the base-line of a wall of irregular shape, indicated by the low ridge of the plaster with which it had once been coated.

At a short distance to the north, barely distinguishable from the the soil, I noticed some artificially superposed pieces of *Madrepora* and on examining these realized that they constituted the end of a massive wall running from west to east, the eastern side of which was covered with a smooth layer, several inches thick, of hard plaster, mixed with a remarkably coarse grained sand.

While the peons were being summoned at my request, I began to remove the soil and the long roots and tubers of the native cane or *otote* from the smooth surface of the wall, on which, to my joy and surprise, I soon perceived some lines painted in red ochre.

When the men and the rest of the scattered party arrived we set them to work and gradually cleared 4 m. and 70 cm. of the same wall from under soil varying from 6 to 8 feet in depth. I reserved for myself the delicate task of clearing the surface of the wall, perceiving as I did so that the red lines formed a fragmentary conventional representation of the feathered serpent, Quetzalcoatl.

Owing to the extreme care I took in performing my task I was able to keep in place and, on the following morning, photograph a rather loose, large fragment of the plaster on which three of the peculiar sections of the serpent's body were painted. In the photograph, plate v, fig. 1, this can be seen under an overhanging mass of tangled roots and tubers.

The distance from the base of the wall to the top of this fragment measured 85 cm.

The first portion of the wall that I discovered is visible at the left of the photograph (by the crack).

The construction of the wall, of large water-worn fragments of *Madrepora*, laid on each other with earth between, can be seen to the right where the plaster had become detached. I carefully collected all the loose fragments of frescoed plaster that I found near the wall, with the hope of being able to reconstruct the entire figure of the serpent, which I did not, however, succeed in doing. Amongst the most interesting fragments I found were two which displayed a narrow, 4 cm. wide, painted band of a beautiful shade of blue, which evidently once occupied a position above the feathered serpent. The most remarkable fragment I found, reproduced in plate vi, shows some of the appendages to the serpent's body and a small "Maltese" cross in a circle, all painted in red. This detail naturally recalls the tradition that the white garments of the culture-hero, Quetzalcoatl, were decorated with red crosses.

The same photograph also shows the remarkably coarse sand (or very fine gravel) which was mixed with the mortar. One can readily understand from this why Chaplain Diaz, seeing the walls of the ruined building and of the pyramid coated with such plaster, wrote that they were made of "mortar and sand."

Plate v, fig. 2, shows the continuation of the wall, the base line of which still preserved its plaster to heights varying from 27 cm. to 50 cm. Below the mark (a cross made on the photograph), the layer of cement-flooring can be seen which covers a space 1 m. 65 cm. wide terminating in a step 27 cm. deep, with rounded edge where begins the lower cement floor, of which only 1 m. 74 cm. are preserved, but in which there is a deep square basin (34 cm. deep and 88 cm. \times 76 cm. in the two other dimensions). In this we found many fragments of broken pottery, with evidence of previous disturbance.¹

¹In the earth removed during our excavation and scattered on the shore, or imbedded in the bank, we found a great number of fragments of pottery of many different kinds. The most remarkable piece was that found actually under water by Miss Dolores Fortuño y Miramón, on the sea-shore. It is decorated with a design in white and brown,



FRAGMENTARY RED PAINTING OF THE FEATHERED SERPENT, QUETZALCOATL, FROM PLASTERED WALL, ISLAND OF SACRIFICIOS.

The lower cement floor is on a level with the sandy sea-shore, and the base of the frescoed wall is slightly below this. The most interesting fact I observed was that the upper cement floor, which is 27 cm. higher than the other, was unquestionably of later construction than the frescoed wall—for it covered the lower portion of the painting. On removing a piece of the cement floor and the fragments of *Madrepora* which supported it, the recurved upper jaw of the serpent—strikingly like that carved on the famous Calendar Stone of the City of Mexico, and with identical star-symbols attached to it—was revealed, the colors red and black with which it was painted being remarkably vivid.

The difference between the level of the base line of the wall and that of the cement floor can be seen under the mark in plate v, fig. 2, while plate v, fig. 3 is the best close view I could get of this important proof that the painted wall belonged to an older period than the also undoubtedly pre-Columbian cement floor. At some period, after the temple wall had been built, and while its decoration—which may or may not have been contemporaneous—was still in good condition, the priesthood had found it necessary to raise the level of the floor by 27 cm. although, in so doing, the head of the painted serpent, the sacred emblem of the god, had to be partly concealed.

The imperative reason that dictated so undesirable an alteration appears to have been an encroachment of the sea due to a subsidence and a consequent decrease of the island in size. For it is unthinkable that the ancient builders should have chosen for a temple the present unsuitable site of the ruined wall and of the pyramid, of which I found vestiges further north in close proximity to the beach.

That such natural changes should gradually take place on the leeward shore of a coral island is in accord with the accepted theories about the growth and decay of coral reefs. The coral-polyps flourish on the windward side and outer edge of the reef and its growth is principally carried on at those points. On the leeward side—which is precisely the south and southeastern shore of Sacri-

which is identical with that on two specimens now preserved at the National Museum and wrongly labelled and of some of the British Museum specimens, in the descriptions of which it is again referred to.

ficios—the breakers detach masses of dead coral and gradually denude the reef.

From the place where the ruined wall stands I observed that a ledge of coral rock extended quite far into the sea, a line of breakers marking its outer edge. The water on this ledge was very shallow even at high water. It appeared to me probable that, at one time, the island must have extended over this ledge which may, indeed, have been much larger. The bank of earth shows signs of recent encroachment of the sea and the ledge is strewn with fragments of ancient pottery which can be seen under the clear water. The fact that the lowest cement floor is at sea-level would seem to indicate that the temple was at one time far inland, or that the whole of the island has sunk. That the wall and floor I uncovered belonged to a temple dedicated to Quetzalcoatl there could be no doubt. This being the case, the question was whether it formed a part of the circular structure described by the Spaniards or whether it belonged to the ruined group of buildings they first encountered. For it was not, of course, impossible, and it was even probable, that a Quetzalcoatl temple had existed in the older group and that, owing to the natural causes mentioned, this had been abandoned and left to destruction by the gradual action of the sea, after attempts had been made, by raising the level of the floors or terraces, to counteract the subsidence that had taken place.

When was the cement floor I discovered raised to a higher level? Was it before or after the structures in use at the time of the conquest were erected? It seemed to me that a careful exploration of the island might enable one, not only to locate the sites of the two groups of buildings, but also to detect the extent of the undoubted decrease in the size of the south and southeastern shore of the island—a decrease that may have been hastened by the removal of great masses of dead coral for the manufacture of lime for mortar.

It was with this fresh interest and plan of investigation in my mind that I returned to Vera Cruz, with the more enthusiastic than wise resolve to report my discovery to the Mexican government on my return to Mexico and to ask for permission to continue my researches on the island, offering, in return, my time and services

gratis, with my written pledge that all objects that I might find would be faithfully and unconditionally delivered to the government officials appointed to receive them.¹

Unattractive and uncomfortable though a stay in two empty rooms of the abandoned lazareto was bound to be, I felt that the absorbing interest of the problems involved would make even this bearable and I therefore was willing to spend some weeks in isolation on the sandy island.

It seemed to me moreover that it was my scientific duty to return thither, as soon as possible, so as to take immediate steps to protect the fresco with a glass covering and the whole excavation by a fence to keep off visitors, and a low sea-wall to prevent the waves from reaching it in stormy weather.²

Immediately after my return to Mexico City I carried out my resolution and reported my discovery to the Inspector of Monuments, to whom, in the presence of the Director of the National Museum, I submitted fragments of the fresco and of pottery as well as my photographs of the excavation I had made. On the same day I showed the same to the Minister and Sub-secretary of Public Instruction, volunteering my services to carry out the exploration and prepare a report on it for the forthcoming Congress of Ameri-

¹ I take much pleasure in acknowledging here the kindness and courtesy of the Director General of Light-houses, Señor Nicolau; of the Director, Señor Meneses, and of other members of their department, without whose authorization and efficient aid I could not have visited the island or made the small excavation upon it.

² When, during my subsequent week's stay in Vera Cruz in February, I made a last hasty visit to the island, after the severe northers which had raged along the coast I found my worst fears realized. The large loose fragment of plaster on which three sections of the serpent's body were painted, and which can be seen in my photograph, had disappeared. As I could find no vestige of it, I had to conclude that it had been carried away by one of the many excursionists who visit the island. What I most deplored was the fact that some person had also broken away a large piece of the upper cement floor, which covered and protected the serpent's head I had hoped to carefully uncover and copy. This had been so much damaged that no hope remained of being able to distinguish it.

Although I had dreaded the possible effect of a storm upon the ruined wall and floors, I was surprised to find, not only that the beach was strewn with driftwood and rubbish, some of which had been washed and blown over the lower cement floor, but that the waves had actually washed away the evidences of our freshly made excavation, the heap of debris and earth which I had ordered to be thrown towards the beach with the hope that it might serve as a breakwater.

canists. It was then agreed that I was to give my time and services gratis to the government and that the Department of Public Instruction would grant me the sum of 500 pesos (\$250 U. S. currency) for the necessary expenses of camping outfit, travelling expenses, workmen, and maintenance. I was then encouraged and authorized to make all necessary preparations and purchases of outfit, photographic material, etc., and, after three weeks of waiting, to go to Vera Cruz where, after another delay of three weeks, three official documents were sent me.

The first informed me that the Minister of Public Instruction would grant only 200 pesos (\$100 U. S. currency) for the exploration of the island of Sacrificios.¹

The second informed me that my explorations would be limited to a part of the island.

The third deserves to be translated in full for the benefit of archeologists who might like to learn the conditions under which the Ministry of Public Instruction in Mexico graciously and considerately accepts volunteer scientific work.

"This General Inspection has had the honor of receiving the communications in which the Ministry of Public Instruction informs him that it has granted to Mrs Zelia Nuttall the permission to explore the island of Sacrificios and that it has appointed the Citizen Salvador Batres,² Assistant of the Inspection of Archaeological Monuments, so that he should supervise her. This Office believes it to be indispensable that he should supervise everything relating to this exploration so that thus the scientific interests of Mexico remain safeguarded and also the formalities of the law be fulfilled.

"It is therefore indispensable that the Ministry give orders to the Assistant of Inspection, to act in every way in conformity with the instructions that the General Inspector of Archaeological Monuments will give him. He is to inform the latter of all that occurs during the discharge of his undertaking. Mrs Nuttall is to be told that the explora-

¹ Having accepted the ministry's first grant of 500 pesos for the exploration as bonafide I had, at the time when I received the above, already spent more than 200 pesos for camping outfit, photographic material, travel, and maintenance, all of which expense I personally incurred. For this and my loss of time, to say nothing of the annoyance and fatigue incurred, I have never received the slightest expression of interest, inquiry, regret, or apology from the ministry.

² The young son of Inspector Batres.

tions for which permission has been granted her, are to be carried out, in every detail, according to the laws, regulations, and dispositions of the subject. (Feb. 19, 1910.)"

The above documents made me realize that their purpose was to discourage me, for reasons which soon became apparent.

After returning to Mexico and under the advice of influential friends, I made vain attempts not only to ascertain exactly what "the laws, regulations, and dispositions" are which Inspector Batres enforces, but also to obtain for archeologists in general, some recognition of mutual obligations and the rights of accredited scientific workers to some consideration and independence of action, such as are so generously accorded by the Mexican government to scientific workers in other fields. President Diaz and his son, Colonel Porfirio Diaz, who takes a true interest in archeology, kindly endeavored to adjust matters, but their plans were cleverly circumvented. Further delays occurred and the next development was that, during Holy Week, in March, Señor Batres went quietly down to Vera Cruz and explored the island himself.

A few weeks afterwards, the government newspaper, *El Imparcial*, published an official notice, sent in by the Ministry of Public Instruction, in which Inspector Batres—perhaps exploiting the fact that the stormy waves had washed away the earth thrown from our excavation,—*claimed the priority of discovery of the ruins on the island of Sacrificios!*

On May 11th, the following article appeared in the leading American paper published in Mexico, the *Mexican Herald*:

PRIORITY OF DISCOVERY OF SACRIFICIOS RUINS CLAIMED FOR L. BATRES

A Mexican newspaper last Sunday published an account of the exploration of the island of Sacrificios made by Leopoldo Batres during Holy Week, in the course of which it says he "found certain ancient walls covered with paintings which had been 'discovered by the sea a few months previously.'"

Instead of the sea, however, the real discoverer happened to be Mrs. Zelia Nuttall, who, December 26, 1909, with the aid of two peons with picks and shovels, excavated nearly three meters of the wall, a small portion of which she had found sticking out of the bank by the sea shore. The excavation was witnessed by the sub-director of light-houses and four of his subordinates, Mrs. H. P. Hamilton and the Misses Fortuño y Miramon.

On her return to Mexico in January, Mrs. Nuttall officially reported her discovery of the frescoed walls and submitted photographs taken by her and Mrs. Hamilton, of the

excavation, to the department of public instruction, to Mr Batres as inspector of monuments, and to the director of the National museum.

The claim set forth in the article published has met with strong objection on the part of many, who resent the injustice of attributing to the action of the waves, a discovery which deserved the recognition of all interested in the archaeology of Mexico.

The incident was "closed" by my handing in my resignation as Honorary Member of the Organizing Committee for the Congress of Americanists of which the Minister of Public Instruction and Inspector Batres are the leading members. I also renounced my title as Honorary Professor of the National Museum, as a protest against the treatment that I—and, indirectly, all American archeologists—had received from the Inspector of Monuments and the ministry that supports him and shares the responsibility of his doings, as well as against the Batres work of classification in the Archaeological Department. As I look back upon this, the only discouraging experience I have had in a long scientific career, I realize that I was somewhat to blame in the matter. Knowing of the trying experiences that other archeologists, foreign and Mexican, had undergone, I should have rigidly abstained, as heretofore, from having any dealings whatever with the Batres-Sierra coalition which has so successfully discouraged all scientific archeological research and actually driven from the Mexican field such foreign patrons and scientific workers as the Duc de Loubat and Alfred P. Maudslay; and, among their own countrymen, Señor del Paso y Troncoso and Señor Francisco Rodríguez (both quondam directors of the National Museum), Dr Nicolas Leon, Señores Manuel Gamio and Ramon Mena, and many others equally deserving of every consideration and encouragement. I should moreover have listened to the warnings I received from those who predicted exactly what happened, namely, that, as in other cases, inspector Batres would so "arrange matters" as to hinder me from making the exploration; that he, sooner or later, would carry it out himself and claim the priority of discovery.¹

¹ The following translation of extracts from an article that appeared on June 2, 1910, in *El Tiempo*, the eminently respectable, conservative, and patriotic Catholic newspaper of Mexico, will not only convey an idea of the opinion in which inspector Batres is held by his own countrymen, but will also reveal to what depths archeological research has sunk in Mexico under the men to whom a well-meaning government blindly entrusted the welfare of Mexican archeology.

I have been informed that, while he uncovered more of the wall I discovered, at the island of Sacrificios, he took no precautions to preserve the fresco, which is now almost entirely destroyed. Driven,

"Our Government . . . appointed an Inspector and Conservator of Monuments whose duties, as the title indicates, are to take care of our ruins, to endeavor to preserve them and to prevent their suffering alterations under the pretext of making repairs. We will say nothing about the individual who has been favored with the said appointment, for it is known well enough as are also the damage he has done to the science of archeology by means of his proceedings, his ignorance, and his audacity which is that of an improvised savant (*un sabio improvisado*).

"We are therefore only going to refer to a fact which has aroused our attention and which was made public by *El Imparcial* [the official organ of the government] a few days ago, May 22; in the following paragraph:

"A NEW SEPULCHRE IN THE RUINS OF MITLA.

"Felix Quero, the custodian of the notable ruins of Mitla, in Oaxaca, has just addressed a letter to Leopoldo Batres, inspector general of archeological monuments of the republic, reporting to him that a great crevice has opened in the pavement, and that this is close to a tomb in which, a few years ago, an interesting discovery was made, namely, of a number of gold bells. The above mentioned custodian therefore supposes that the new discovery may be of a new tomb of similar value. With all activity Señor Batres, after giving notice to the department of public instruction, appointed Antonio Sanchez to go to Mitla to make a complete exploration of the place where the crevice was found."

"As will be seen, the fact in question is of a certain importance, particularly from the archeological point of view. If, as the custodian suspects, a new sepulchre has been found, it would be well worth while to have it studied and investigated in accordance with all the rules prescribed by archeological science. Measurements of distances and depths, should be taken, the material found should be separated and examined, photographs should be taken—in fact, everything should be done in order to discover what science is always hungry to learn. But, as is evident, naught has been done, of what should always be done in similar cases.

"The Inspector of Monuments limited himself and this 'with all activity,' to sending one of his domestic servants (for such is Antonio Sanchez) to make the exploration.

"What kind of an exploration can an ignorant and dull servant make, especially of such a discovery as that of a hitherto unknown grave in Mitla, the ruins which have awakened the utmost interest of foreign scientists?

"It is probable that all the commission given to Sanchez was to gather in the objects found—this being the sole preoccupation of the Inspector of Monuments. . . . In the present case this is not only a question of scientific interest, but one which involves Mexico's good name. We therefore hope that with all activity and energy steps will be taken to avoid the ridicule that threatens us and the loss of the data which may be obtainable from said discovery."

To the foregoing translation I will but add that since the above article appeared in *El Tiempo* no further announcement concerning the interesting and important discovery at Mitla has appeared. It must therefore be inferred that the grave, which is surely that of a Zapotec high-priest and ruler, and may be that of the builder of Mitla, has simply

as I also have been, from the Mexican field, I may be allowed to express the parting hope that the day is not distant when the Mexican government will entirely reorganize its Department of Archaeology and instead of its "one-man system," which has led to such unheard of abuses,¹ appoint a staff of competent and honorable engineers and architects, whose duty it will be to preserve the many important and widespread ruins of Mexico and Yucatan, and to inspect the excavations made by accredited archeologists.

4. ANTIQUITIES FROM THE ISLAND OF SACRIFICIOS PRESERVED AT THE NATIONAL MUSEUM, MEXICO.

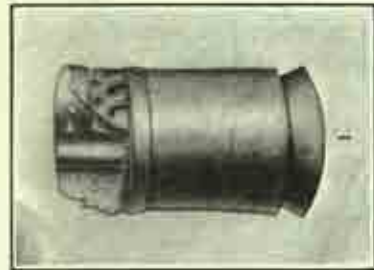
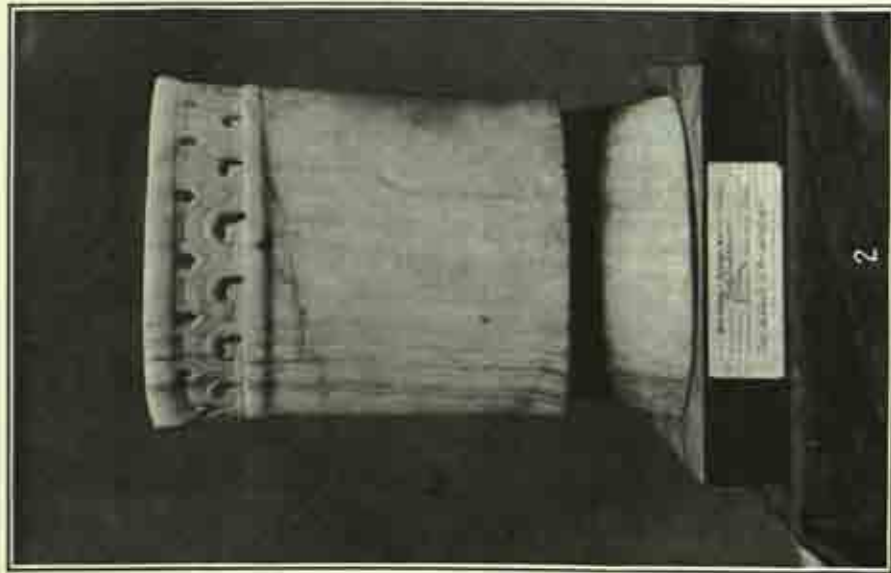
In a note-book I used during my visit to Mexico in 1884 there is an entry to the effect that "the most beautiful ancient stone objects I had seen at the National Museum were: an obsidian vase from Texcoco and a number of tecali vases from the island of Sacrificios. Amongst these I noticed a soap-stone teapot which was, however, undoubtedly Chinese and must have got into the case by some mistake." I referred to the fact that all of these specimens were kept in Case No. 6, and were described on page 476 in the Catalogue of Historical and Archaeological Collections of the National Museum, by Gumesindo Mendoza and Jesus Sanchez, published in 1882 in vol. II of the Annals of the same institution.

I was particularly interested in a vase which is specially men-

been plundered by order of the Conservator of Public Monuments, with the sanction of the Ministry of Public Instruction, by a domestic who, when not entrusted with such archeological work, serves at the table of the Batres family.

All archeologists will unite with me in deploring the annihilation of the priceless data that constituted, in our eyes, the real treasure of the tomb, for we know that it is only from such that we can ever hope to obtain light on the history and age of the ruins of Mitla.

¹The present "Inspector and Conservator of Archaeological Monuments" is also Director of the Government Explorations at San Juan Teotihuacan besides being a Contractor and Museum Classifier. Although he draws salaries for all of these monopolies, this government official has for years, as many tourists and scientists are willing to testify, openly dealt in antiquities from different parts of Mexico, as well as from Teotihuacan, and received payment for "affording facilities" for taking said purchases out of the country, although its laws forbid their exportation. It will be remembered that it was he who had the violent altercation with the Duc de Loubat at the New York meeting of the International Congress of Americanists, where the latter justly reproached him for his "methods."



TECALI VASES FROM THE ISLAND OF SACRIFICIOS

1. Vase in the Mexican National Museum, from a drawing by Jádre K. Gondra, 2 and 3. The same in two different positions, from photographs of 2. Nuttall, 4. Vase in form of a monkey, as figured by Brantz Mayer.

tioned in the aforesaid catalogue, and is described as follows by Isidro R. Gondra, with a drawing which is reproduced (pl. VII, fig. 1):

"The first object figured is a vessel of tecali . . . whose base is worked into the semblance of a pedestal. It exhibits, at two thirds of its height, a beautiful Grecian fret ornament, executed in open-work—a difficult achievement. It is obvious that, on employing this vase, any liquid it contained would spurt out through the openings in the border. It was probably in order to obviate this inconvenience that a tube was made inside of the vase extending from its bottom to its rim, thus providing a means of emptying its contents without soiling its exterior. This beautiful specimen was obtained by the Museum as early as the year 1827 with others of the same material but of different sizes and more whimsical shapes.¹ These were all purchased from Señor Luna, a citizen of Atlixco, who extracted them from an excavation he made in the island of Sacrificios opposite to Vera Cruz.

I have not been able to ascertain in what way they were found nor under what circumstances, which details would throw light upon a find so valuable and abundant. . . ."

At intervals, since I have resided in Mexico, I have seen the above vase at the museum as well as the other one figured by Brantz Mayer, and remember once pointing them out to a friend and saying that "Grijalva's statement that the two tecali vases found by one of his men on the island of Sacrificios were 'fit to be presented to the Emperor' would seem to me to apply equally as well to these two beautiful specimens."

I had lost sight and thought of these vases for some years, but, after my visit to the island and return to the City of Mexico, I went to the museum with freshly awakened interest to see them again, and to carefully examine everything from Sacrificios that was preserved there.

At the entrance door I met Señor Leopoldo Batres, to whom the Minister of Public Instruction had recently handed over the entire reclassification of the Archæological Department of the Museum, which meant the undoing of the task for which Prof. Edward Seler had been called to Mexico two years ago and to which he devoted several months of hard work.

¹Gondra alludes, further on, to these vases as being "decorated with lizards, monkeys, birds and plants. . . ." Cumplido's ed. of Prescott's *Conquest of Mexico*, vol. III, 1846.

On mentioning to Señor Batres the object of my visit to the museum he astonished me by stating, categorically, that "there was nothing from Sacrificios in the whole museum."

Although quite non-plused, I carried out my intention to visit the exhibition rooms, filled with wonder at what had become of my old friends and with deep solicitude as to their fate. It was therefore a real joy that I experienced when I recognised, in strange company, for it was in a case labelled "Toltec Civilisation," my old favorite vase with the tube, which had been figured and described by Gondra. Asking the assistant to open the case I took it out and examined it and its new numbers, the first of which corresponded to Prof. Seler's catalogue in which the vase was registered as from "Totonacapan." The second number, 818, corresponding to the Batres classification, is repeated on the new label which is visible in the photographs I subsequently took of the vase, on its stand, in two positions (see pl. VII, figs. 2 and 3). The amazement with which I read, on the Batres label, the gratuitous statement that the vase was "from Teotihuacan" and the product of "Toltec civilisation," can readily be imagined by my colleagues. It was destined to be increased, however, when in another case on a lower shelf, surrounded by pottery, I recognised my second old favorite vase, the one found by Señor Luna on Sacrificios in 1827 and described and figured by Brantz Mayer¹ (in 1853); H. H. Bancroft² (in 1883); Antonio Garcia Cubas³ (in 1889) and Alfredo Chavero⁴ (in 1884). (See pl. VIII, figs. 1 and 2). I could scarcely believe my eyes when I read, on the new Batres label, that this familiar and historical vase was "from the village of Tilantonzo, district of Nochistlan, State of Oaxaca," and was the product of "Mixtecan civilisation"⁵ (see pl.

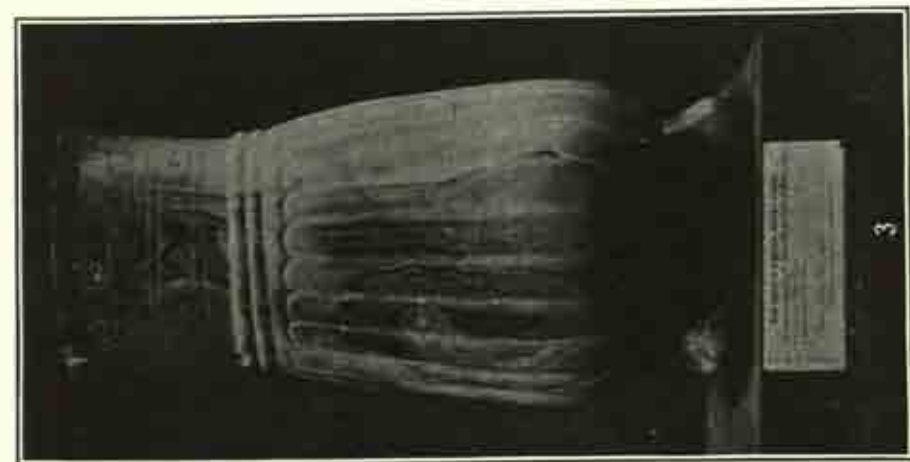
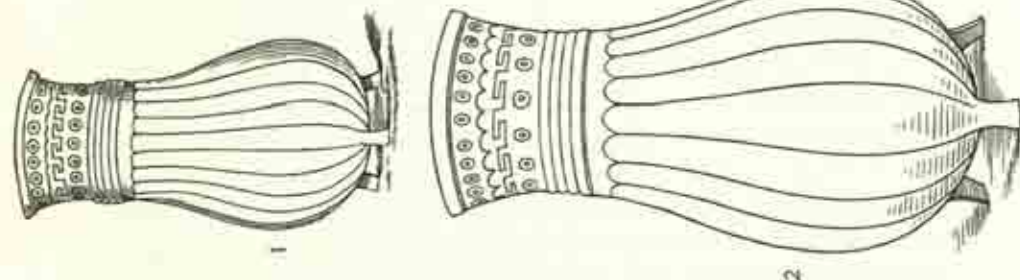
¹ Op. et loc. cit.

² *Native Races*, vol. IV, Antiquities, p. 427.

³ Antonio Garcia Cubas, *Tableau Géographique, Statistique et Historique du Mexique* (traduction); México, 1889 (Envoyé à l'Exposition de Paris), p. 297; Chap. XII. Archéologie. Planche, Objet No. 1. Vase de tecalli (onix) parfaitement poli et, comme tous ses pareils, il était dédié au culte. Il a 34 cs. de hauteur par 0.004 de grosseur du côté de la gorge.

⁴ *Mexico à travers des Siècles*, vol. I, p. 165.

⁵ The photograph of this label reveals that, beside the purely imaginary and absolutely false information it gives museum visitors concerning the origin of this vase, it only supplies them with the illuminating knowledge that it is "a vase with three legs." In the Seler catalogue no place of origin is assigned to this specimen.



TECALI VASES FROM THE ISLAND OF SACRIFICIOS

1 and 2. Vase found by Señor Luna in 1847, from early cuts. 3- The same, as relabelled, from a photograph. 4- Vase decorated with a lizard, from a photograph.

viii, fig. 3.) A third tecali vase which I remember, and which moreover corresponds to Señor Gondra's statement that one of the vases found by Señor Luna on Sacrificios was "decorated with a lizard," is also gratuitously classified by Señor Batres as "a Toltec cinerary urn, from Teotihuacan" (see photograph of this, pl. viii, fig. 4).

Scattered in other cases I dejectedly counted four tecali vases in the form of a monkey, respectively labelled from Teotihuacan, Cholula, and other places. One of these is undoubtedly the original specimen from Sacrificios which was figured by Dupaix and is described and pictured by Brantz Mayer (op. et loc. cit.) (see pl. vii, fig. 4).¹

The next objects of my search in the National Museum were the terra-cotta vases from Sacrificios, the best known of which is that which was published by Waldeck in 1828 (pl. ix, fig. 1). Waldeck's remarkably faithful drawing has been reproduced in a series of works including H. H. Bancroft's *Native Races* (vol. IV, p. 427) where it is designated as "Earthen vase from Isle of Sacrificios."

The drawing which Brantz Mayer published is unfortunately most inaccurate and conveys the false impression that the man modelled in clay wore a mustache (pl. ix, fig. 2). This mistaken impression naturally caused Professor E. B. Tylor² to entertain doubts as to the authenticity of the specimen and to state: "It is true the pure Mexico race occasionally have mustaches, but they are very slight, but not like this, which falls in a curve on both sides of the mouth, and no Mexican of pure Indian race ever had such a nose and chin, which must have been modelled from the face of some toothless old Spaniard." If Professor Tylor had but seen Waldeck's excellent drawing, or had had my opportunity of examining the

¹ I searched in vain, in the museum, for the stoneware teapot, which I remembered, and which has been figured by Señor García Cubas (op. et loc. cit.). Gondra rightly suspected it to be of Chinese origin, and it gave rise to much speculation, especially as similar ones were found by respectable authorities at Tepeaca (on the ancient high road to Puebla) and in the Huasteca. The well vouched for fact that the teapot was actually found on the island of Sacrificios can doubtless be explained by the employment of the island by the Spaniards, during centuries, as a lading place for merchandise from the Philippines and China, after it had been brought overland on mule-back from Acapulco to Vera Cruz, to be shipped from thence to Spain.

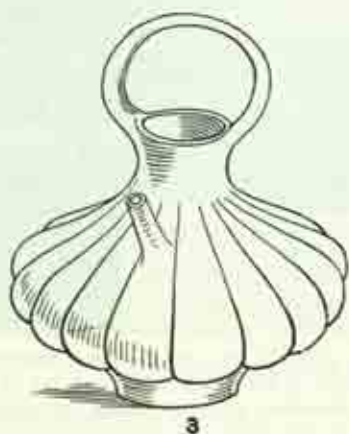
² *Anahua*, 1861, p. 231.

original, I am sure he would have admitted its authenticity and assigned it to pre-Columbian times. An examination of the photograph I took of the famous vase will suffice to show that the lines around the mouth represent wrinkles and not a mustache, and that it has somewhat suffered from ill-usage since Waldeck drew it in 1827.

I found this remarkable specimen in a case containing pottery from Manzanillo, state of Michoacan, the area of the Tarascan culture, and it is to the Tarasco that Señor Batres assigns it (see pl. x). The number corresponding to that in the Seler catalogue had been removed from this specimen. Other vases of minor interest, but which undoubtedly are of those found on Sacrificios, also figure now as Tarascan, or, as in the case of the original of Brantz Mayer's drawing (pl. ix, fig. 3), as Huastecan.

Their fate, I grieve to have to state, is not exceptional. On the contrary it is that of many specimens in the National Museum, and of the majority of those which constituted the valuable collection of antiquities made by the Rev. Don Francisco Plancarte, the present Bishop of Cuernavaca and the most scholarly and distinguished of living Mexican archeologists.¹ It was my privilege to accompany Bishop Plancarte when he visited the museum some months ago, for the purpose of showing me certain specimens in his collection of a type that we had both been studying and discussing. To our profound regret we found that the numbers on the specimens, which enabled the student to make use of the instructive catalogue of the Plancarte collection, had entirely disappeared. Obligated, for the purpose of comparative study, to refer to three objects which Bishop Plancarte had discovered together in a single tomb we ascertained, after a prolonged search, that Señor Batres had assigned each of these objects to a different locality and to a different civilization!

¹ Visitors to the memorable American-Historical Exposition which was held in Madrid in 1892, will remember that the most interesting feature in the Mexican archeological section was the admirably arranged "Plancarte Collection," the study of which was facilitated by a scholarly catalogue of 87 pages quarto, issued by the Mexican government. This catalogue, the joint production of the learned Director of the National Museum, Señor Francisco del Paso y Troncoso, and of the Rev. Don Francisco Plancarte, minutely described 2762 objects and recorded every detail concerning their discovery, etc. The Plancarte collection was subsequently acquired by the National Museum.



VESSELS FROM THE ISLAND OF SACRIFICIOS

1. Vase with human figure, from a drawing by Waldeck. 2. From drawing of same published by Brantz Mayer. 3. Corrugated jar, from a drawing by Brantz Mayer.



VASE FIGURED IN PLATE IX, SHOWING NEW LABEL

It is my hope that the foregoing data will serve at least to establish the identity and preserve the memory of the precious historical vases from Sacrificios, which otherwise would be lost in the chaos into which the unexampled Batres classification has transformed the Archaeological Department of the National Museum.¹

5. ANTIQUITIES FROM THE ISLAND OF SACRIFICIOS PRESERVED AT
THE BRITISH MUSEUM, LONDON

It is an interesting fact that it is the British Museum that now possesses the finest collection of antiquities from the island of Sacrificios. This was purchased in 1844 from Captain Evan Nepean, other specimens from the same island being bought in 1851 from Lieutenant Forrest.

It is a relief to be able to refer to these specimens, the reliable records of which have been and will ever be faithfully preserved. For in the British Museum and, for that matter, all known museums of the world, the possibility of labels being filled in with "fake" data is as unthinkable as the possibility of a Ministry of Public Instruction imposing an unfit person upon a public institution entrusted to its care and protection.

Through the obligingness of Colonel F. H. Ward who kindly visited the British Museum at my request, made a selection of twenty-four of the most remarkable specimens of the collection from Sacrificios, and had them photographed for me, I am able to afford my readers the opportunity of judging for themselves of their variety and value (plates XI-XIV). It is my hope that some day, after making a careful comparison of the Sacrificios specimens with reliable collections from Yucatan and Mexico, it may be possible to make an exact list of the different districts along the coast or in the interior whence

¹In justice to the distinguished gentleman and scholar, Señor Genaro García, the present Director of the National Museum, it should be mentioned here that he is in no way responsible for the Batres classification. Disregarding widespread public opinion concerning Señor Batres, the Ministry of Public Instruction arbitrarily appointed him to reorganize the archeological department, exempting him, as usual, from all inspection or control. In this particular instance, the result of the unique privileges, license, and generous pecuniary support regularly accorded to Señor Batres by his superiors, is that the Archaeological Department of the National Museum is invalidated for purposes of serious study and that thereby Mexican archeology has received a blow, from the harmful, wide reaching consequences of which it can never fully recover.

they were taken to the island. An idea could thus be obtained of the area influenced by devotion to this particular shrine, and the distance whence people came to it.

The two tecali vases (nos. 51891 and 51892), one of which represents a chieftain wearing an ocelot helmet, the mark of high military rank, and the other figuring a man, wearing the Huastekan head dress, kneeling on one knee, an attitude of subjection, are interesting, but not as artistic and as well executed as the historical vases unearthed by Señor Luna.

Among the twenty-two specimens of clay vessels figured, different techniques are represented as follows:

No. 999, plain.

No. 1094, incised with "the jewel of the wind," the symbol of Quetzalcoatl; see also 1078 for painted, different form of same symbol.

No. 957, incised with slight indications of relief work (note the Maya analogies in this specimen).

No. 926, design in low relief—note the resemblance in form of design of its border to what Gondra describes as the "beautiful fret ornament executed in open-work" on the tecali vase, pl. VII; also its archaic form and the Quetzal feather ornaments on the lower band.

Nos. 930, 931, 971, and 973, specimens of modelling. The human face in the serpent's open jaw represented on specimen 971 exhibits the transverse nose-ornament, which was worn by chieftains only and by the Huastecans particularly, although the Mexican rulers also adopted it.

Nos. 975 and 976, fine modelling and painting combined. These vessels and 950, 1104, and 1105 are decorated with what resembles a fine white enamel of remarkable durability, for the similarly decorated fragment found by Miss Fortuño y Miraman, which seemed to have lain in the sea water for some time, was in perfect condition.

Nos. 1027 and 917 exhibit cross-bones and skulls, or a skull, and were surely destined for use in the human sacrifices.

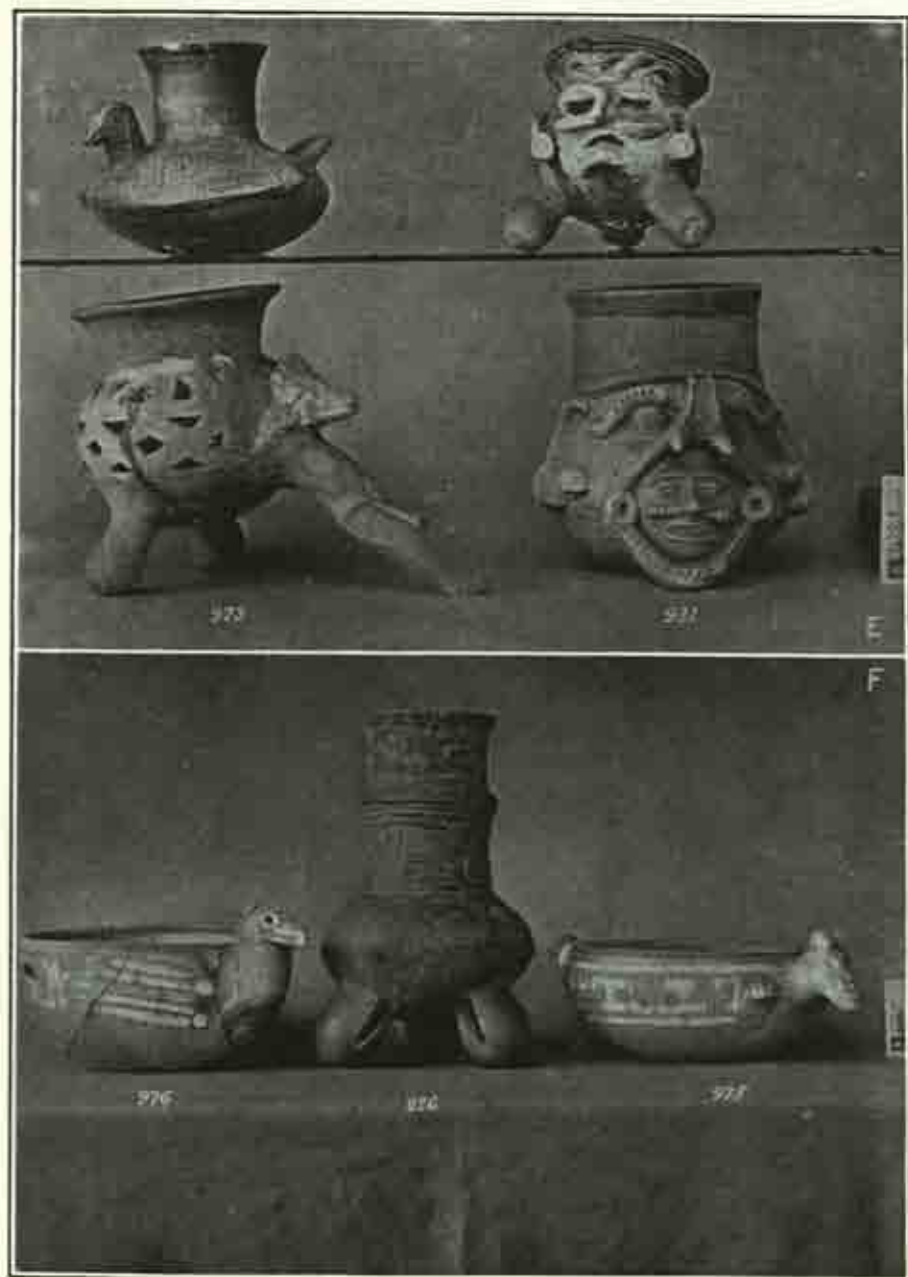
No. 1209 displays a very strange conventionalized representation of a serpent's head with appendages resembling a beard to



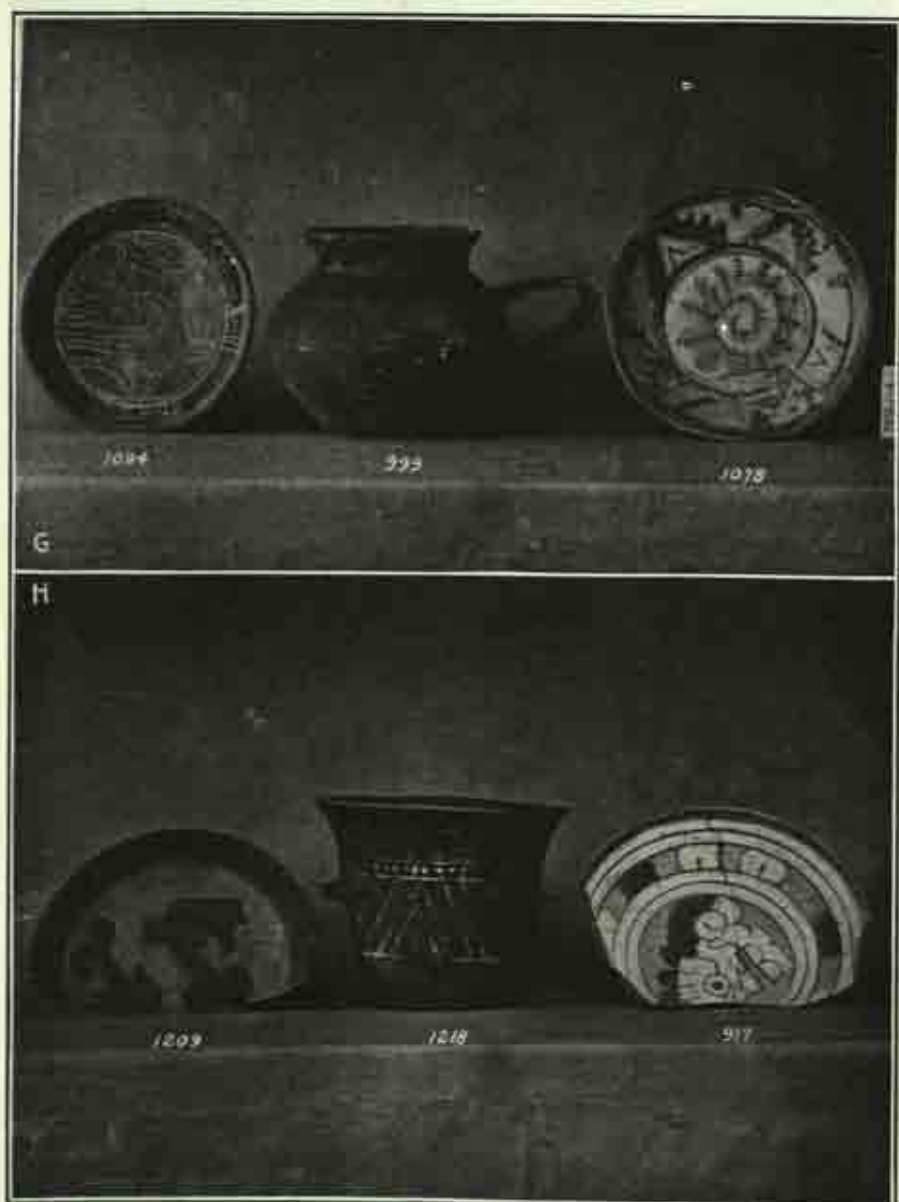
VASES FROM ISLAND OF SACRIFICIOS, BRITISH MUSEUM



VESSELS FROM ISLAND OF SACRIFICIOS, BRITISH MUSEUM



VESSELS FROM ISLAND OF SACRIFICIOS, BRITISH MUSEUM



VESSELS FROM ISLAND OF SACRIFICIOS, BRITISH MUSEUM

which I draw the attention of my colleagues who have been making a special study of animal forms in Mexican and Mayan art.

Nos. 947, 922 and its companion, with three hollow, modelled, and painted feet, and 1218 are interesting in form, but show inferior decoration.

For the benefit of students desiring further information about the specimens I append the following descriptions of them, which were obtained from the British Museum and sent me by Colonel F. H. Ward:

Description of twenty-four vases in Cases 3, 4, 6, 7, 8 and 9, from the Island of Sacrifices, Mexico.

A 51. 8-9. 2. Albaster barrel-shaped vase, carved to represent a seated human figure wearing a lion mask on the head, hands resting on knees; at the back of the vase is engraved a conventional tail. H. $8\frac{1}{2}$ in. Purchased from Lieut. T. Forrest, 1851.

A 51. 8-9. 1. Albaster vase, representing a kneeling human figure, with projecting head ornamented with flat head-dress; large circular ear-ornaments; right hand on knee, left hand on stomach. H. $8\frac{1}{2}$ in. Purchased from Lieut. T. Forrest, 1851.

B 44. 7-20. 957. Cylindrical vase of red ware; on one side a compartment with engraved figure of a divinity. H. $7\frac{1}{2}$ in. Purchased from Capt. Evan Nepean, 1844.

B 44. 7-20. 947. Vase of red ware, entirely covered with ornament in white, brown and cream; spreading foot where the ornament is divided into 3 compartments: the foot is closed to form a rattle. H. 10 in. Purchased from Capt. Evan Nepean, 1844.

B 44. 7-20. 1203. Vase with cylindric body slightly expanding at the mouth, and spreading foot; buff orange ware; round the lip conventional pattern and dots; below, groups of 3 vertical lines; all in red, white and brown. H. $10\frac{1}{2}$ in. Purchased from Capt. Evan Nepean, 1844.

B 44 7-20. 950. Cylindrical vase slightly expanding at the top; buff ware painted in red, white and brown; round the neck and down one side a band of conventional pattern. H. $8\frac{1}{2}$ in. Purchased from Capt. Evan Nepean, 1844.

C 44. 7-20. 1105. Deep bowl of buff ware, ornamented round the lip in black and white. Diameter, $6\frac{1}{2}$ in. Purchased from Capt. Evan Nepean, 1844.

C 44. 7-20. 1027. Ovoid bowl, warm buff ware, ornamented in white, brown and crimson; a skull and a cross twice repeated. H. $4\frac{1}{2}$ in. Purchased from Capt. Evan Nepean, 1844.

C 44. 7-20. 1104. Ovoid bowl of buff ware, ornamented in white, brown and crimson. Diameter, $4\frac{1}{2}$ in. Purchased from Capt. Evan Nepean, 1844.

D 44. 7-20. ? [This has no number; it is the second specimen in the Nepean collection]. Bowl on spreading foot; buff ware, partly colored a brilliant red; round the side ornament in dark brown, red, and white. Diameter $8\frac{3}{10}$ in. H. $5\frac{1}{2}$ in. Purchased from Capt. Evan Nepean, 1844.

D 44. 7-20. 927. Tripod bowl of red ware, cascabel feet in the form of monkeys' heads; inside and out a border in white, red and brown. Diameter, $7\frac{1}{2}$ in. H. $4\frac{3}{10}$ in. Purchased from Capt. Evan Nepean, 1844.

44. 7-20. 931. Pierced tripod vase of pale brown ware colored crimson; the long handle which should form the third foot missing; the edge and sides carefully pierced, the latter with triangular openings; on one side a grotesque human face colored blue. Inside are remains of apparently burnt matter. H. $3\frac{3}{4}$ in. Purchased from Capt. Evan Nepean, 1844.

E 44. 7-20. 930. Tripod vase of red ware; globular body pierced in a lozenge pattern, etc.; two cascabel feet; the third being formed of a human figure with animal's head. Purchased from Capt. Evan Nepean, 1844.

E 44. 7-20. 971. Vase of red ware; the lower part at one side modelled in the form of a monstrous gaping mask, through which appears a human face. H. 5 in. Purchased from Capt. Evan Nepean, 1844.

F 44. 7-20. 975. Bowl with border in white and crimson; from opposite sides project the head and paws of an animal (armadillo); buff ware. H. $3\frac{1}{8}$ in. Purchased from Capt. Evan Nepean, 1844.

F 44. 7-20. 976. Bowl of buff ware, with border in white and crimson; on one side a movable eagle's head; the wings painted. H. 4 in. Purchased from Capt. Evan Nepean, 1844.

F 44. 7-20. 926. Vase of black ware, rounded body and cylindrical neck in two stages, with engraved ornament; cascabel feet. H. $8\frac{3}{10}$ in. Purchased from Capt. Evan Nepean, 1844.

G 44. 7-20. 999. Vase of dull reddish-brown ware; with a projecting loop-handle at one side. Diameter, 6 $\frac{1}{2}$ in. H. $5\frac{1}{2}$ in. Purchased from Capt. Evan Nepean, 1844.

G 44. 7-20. 1078. Saucer dish, with flat base, red colored ornament on buff body; in the centre a spiral with radiating lines beyond a zig-zag border. Diameter, $6\frac{7}{10}$ in. Purchased from Capt. Evan Nepean, 1844.

G 44. 7-20. 1094. Shallow dish of pale red ware, with incised ornament in brown; a crook-like object under a sort of canopy; incised border. Diameter $6\frac{3}{10}$ in. Purchased from Capt. Evan Nepean, 1844.

H 44. 7-20. 1209. Portion of a saucer dish; buff ware; painted in red and black on orange; inside a monster snake; outside ornament of a conventional character. Diameter, $8\frac{3}{8}$ in. Purchased from Capt. Evan Nepean, 1844.

H 44. 7-20. 917. Portion of a tripod bowl, one cascabel foot remaining:

ornamented in brown and white: in the centre a conventional skull. D. $8\frac{1}{2}$ in. across unbroken part. Purchased from Capt. Evan Nepean, 1844.

H 44. 7-20. 1218. Bell-shaped vase of red ware: with band of vandyke pattern in brown, etc. outlined in white: two small ears with vertically pierced holes. Diameter, $7\frac{3}{8}$ in. H. 6 in. Purchased from Capt. Evan Nepean, 1844.

E 44. 7-20. 973. Vase of red ware covered with a dark gray glaze; it represents a bird, the head, wings and tail of which project. H. $3\frac{1}{2}$. Purchased from Capt. Evan Nepean, 1844.

In his "Prehistoric America"¹ the late Marquis de Nadaillac published the illustration of a "vase found in the island of Sacrificios" which is here reproduced (fig. 32).

As several other specimens figured in the same work are preserved at the Trocadéro Museum, Paris, I inquired from Professor Dr Verneau, the present Director of the Ethnographical Museum, whether the original of the above illustration and, possibly, some of the vases, etc., found by Captain Dumanoir, existed in his or any other museum in France. In a communication kindly sent me Professor Verneau informs me that no specimens from Sacrificios are preserved at the Trocadéro Museum and that, thus far, he has been unable to ascertain the fate of the Dumanoir find.

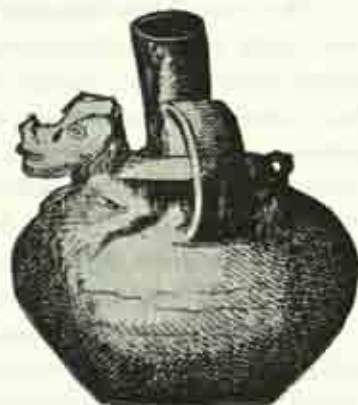


FIG. 32. — Vase figured by the Marquis de Nadaillac.

6. CONCLUSIONS.

The small island of Sacrificios has proven itself to be, in proportion to its size, one of the richest archeological areas in America, and one of the most interesting.

The testimony of its Spanish discoverers establishes the fact that in 1518 it was a sanctuary and furnishes indications that at some remote period the island itself must have been much larger and of greater importance than it was at the time of the conquest. This inference

¹ Ed. W. H. Dall, London, 1885, p. 296.

is corroborated by the fact that, of the two groups of buildings described in 1518, the largest and most imposing were so ancient that they had fallen into ruin.

An investigation of the present condition of the island furnishes proof that it is undoubtedly decreasing in size and has possibly subsided on its leeward coast and that the same changes are affecting the neighboring *Isla Verde* which was thus named because it was covered with verdure and trees, while it is now a barren sand bank.

The ancient, ruined structures described by eye-witnesses appear to have been designed by builders more familiar with the style of architecture prevalent on the peninsula of Yucatan than with that employed by the inhabitants of the neighboring coast or the central plateau of Mexico.

The remarkably beautiful and precious tecali vases and the terra-cotta vessels which have been found in such quantities on the island offer a great variety of style and decoration and appear to have been brought thither at different times and from distant and widely sundered art-centers. The localization of the latter should be a subject for future careful investigation which would undoubtedly shed new light on the distribution of native races; their evolution of different styles of decorative art; their migrations and intercourse in pre-Columbian times.

While analogies to Maya architecture appear to have existed in the ancient buildings on the island it is obvious that the fragmentary representation of the serpent, which I discovered on the ruined and buried wall, is executed in a highly conventionalized style offering close resemblances to that employed by the artist who designed the famous so-called "calender stone." This painting of the feathered serpent and the Spanish testimony concerning the existence and use of a circular structure prove beyond a doubt that the cult of *Quetzalcoatl* was permanently established on the island. It would be difficult to imagine any coast region more favorable for the development of a fervent devotion to *Quetzalcoatl* as wind-god or a locality more suitable for the performance of the gruesome rites calculated to propitiate the deity who controlled the much dreaded and destructive northerners.

On the other hand circumstantial evidence—especially the small, equilateral red cross in a circle on the white ground of the fresco—seems to point to the possibility and probability of an undefined but close association of the island with the historical or traditional culture hero Quetzalcoatl, who was known as Kukulcan in Yucatan, both Nahuatl and Maya names having the same meaning, "Feathered Serpent."

It is remarkable what a new light and fresh understanding of familiar data are gained if we assume, as a "working hypothesis" only, the possibility that native tradition designated the island as having been visited or lived upon by Quetzalcoatl and his followers.

Assuming this to have been the case, we can see why the accidental but strikingly suggestive appearance of Grijalva and his companions at this particular island would naturally have given rise to the native inference that the mysterious stranger and leader was the deified hero who had promised to return. We know that the native watchers stationed on the mainland must have first seen the Spaniards in close proximity to the island, either going to or coming from it in boats, or when actually in or near Quetzalcoatl's circular temple.

I offer the suggestion that the identification of the mysterious new-comers with Quetzalcoatl and his followers by the natives may have owed its origin to Grijalva's unconsciously suggestive appearance at the island sanctuary—in which connection it is interesting to note that the Spanish leader was identified, not with the wind-god, but with the historical culture hero. It was after their visit to the sacred island that the Spaniards were hailed from the shore of the mainland where they were to receive homage and demonstrations of affection.

During the year that elapsed between the departure of Grijalva—who, like Quetzalcoatl, promised to return—and the arrival of the Cortés expedition the erroneous identification, to which Montezuma, the native priesthood, and the people were to sacrifice liberty and life, had time to strike root and grow. Could the error ever have spread and gained strength as it did if some extraordinary and undeniable coincidence such as described, had not overcome all doubt?

How does the foregoing "working hypothesis" about the island

accord with the Montezuma and Sahagun versions of the Quetzalcoatl tradition?

If we assume that the island, which is in sight of the great extinct volcano of Orizaba, was once inhabited and an important center of culture and underwent a gradual or a sudden reduction of size due to volcanic disturbance, we obtain a reasonable explanation of the traditional arrival at Panuco in boats of the high-priest and his followers whom Montezuma designated as the ancestors of his race, and who went inland and founded a colony—then, in course of time, came to the Valley of Mexico. According to Sahagun's Nahuatl version the leader or high-priest, and the wise men who accompanied him and carried the sacred books, reembarked later and departed eastward promising to return. After a lapse of years he fulfilled his promise but, as the colonists denied him their former allegiance, he departed again. Ixtlilxochitl records that some said that, when driven from Tollan, Quetzalcoatl returned to Huey Xalac, "the great or ancient place of sand," also called Huey Tlapallan, where he ruled over his vassals for many years in peace.¹

On the other hand the four well-known native documents which have been preserved² and which depict the wanderings of Montezuma's people, the Aztecs, from their original home to the valley of Mexico, agree in representing their point of departure as an island named Aztlan. Friar Duran translates this name as "Place of Whiteness" which can be rendered as "White land." In three of the MSS. the high-priest or leader is pictured as departing from the island in a boat. When it is considered that the Grijalva expedition, struck by the dazzling whiteness of its sandy beach named the islet close to Sacrificios "White island," it must be admitted that the name Aztlan, "White land," would have been an eminently appropriate name for our coral island.

¹ It is a striking fact that, by a mere transposition of letters, such as philologists frequently have to deal with, the name Huey Tlapallan becomes huey apan tlalli or huey apan ca tlalli, the Nahuatl word for "island."

² These documents are the Codex Boturini reproduced in Kingsborough, vol. I; the Aubin Codex, dated 1576, lithographed at Paris by Desportes and also edited by Goupil in 1893; the "Histoire Mexicaine" belonging to the Aubin-Goupil Collection (*Atlas*, Goupil-Boban, p. 59); and the small painting which successively belonged to Sigüenza y Gongora, Leon y Gama, and Gemelli Carreri, and is reproduced in vol. III of the Spanish Cumplido edition of Prescott's *History of the Conquest of Mexico*.

It would be going too far for the present to even suggest the possibility that the White land, represented as an islet in the native pictographs referred to, was a real island consisting of the present Isla de Sacrificios, since, perhaps, united to Isla Verde, and to Isla Blanca, so named on account of its dazzlingly white sands.

On the other hand it cannot be denied that such an island, large enough to have supported life and to have become the seat of a colony of men of superior culture, would have been situated within an equally easy distance of Tabasco, Campeche, Yucatan, and also Panuco, where, in all regions alike, the Kukulcan-Quetzalcoatl tradition, the same calendar, the same mode of government are traceable.

If we dismiss the "working hypothesis" altogether with all the light it seems to shed on the ancient native traditions, there remain quite enough realities to invest the little island with great archeological, historical, and geological interest.

The foregoing will establish the fact that, in view of the important and deeply interesting problems involved, the island is deserving of the most minute and careful exploration. All Americanists will, I know, share my regret that the only vestiges of archeological remains that still exist and have hitherto been spared by time, the sea, and unskilled exploration, are doomed to destruction by careless and ignorant hands. With these last vestiges, which might furnish so much fresh light, all hope of obtaining knowledge of the island's rôle in ancient Mexican history will pass away forever

CASA ALVARADO,
COYOACAN, D. F.,
MEXICO.

COUP AND SCALP AMONG THE PLAINS INDIANS

By GEORGE BIRD GRINNELL

IN early days, after subsistence, the first requirement of life, had been attended to, war was the most important pursuit of certain plains tribes. Among the war customs, two of those best known and most written about are scalping and counting coup. These are very generally misunderstood and are ill defined in the books. It seems the more important to correct existing errors because these customs are no longer practiced and are now known only to old men.

In a periodical, which recently described a collection of Indian clothing and implements, the following words occur :

"In former times, the most notable achievement of an Indian was the taking of a scalp, but with the introduction of rifles the killing of a man became so easy and there were usually so many scalps taken after a battle that this trophy began to lose its importance. The Indians considered it a much braver act to touch the body of a fallen foe with a coup stick under fire of the enemy."

In the Handbook of Indian Tribes it is said "Coups are usually 'counted'—as it was termed—that is, credit of victory was taken for three brave deeds, viz, killing an enemy, scalping an enemy or being the first to strike an enemy either alive or dead. Each one of these entitled a man to rank as a warrior and to recount the exploit in public; but to be first to touch the enemy was regarded as the greatest deed of all, as it implied close approach during battle."

The first of these quotations is—except the last sentence—fantastically untrue, while the second is also misleading, since the killing or scalping of an enemy seems to be given equal rank with touching the enemy. Among the plains tribes with which I am well acquainted—and the same is true of all the others of which I know anything at all—coming in actual personal contact with the enemy by touching him with something held in the hand or with a part of the person was the bravest act that could be performed.

To kill an enemy was good in so far as it reduced the numbers

of the hostile party. To scalp an enemy was not an important feat and in no sense especially creditable. Enemies were not infrequently left unscalped. If scalped, the skin of the head was taken merely as a trophy, something to show, something to dance over — a good thing but of no great importance; but to touch the enemy with something held in the hand, with the bare hand, or with any part of the body, was a proof of bravery — a feat which entitled the man or boy who did it to the greatest credit.

When an enemy was killed, each of those nearest to him tried to be the first to reach him and touch him, usually by striking the body with something held in the hand, a gun, bow, whip, or stick. Those who followed raced up and struck the body — as many as might wish to do so. Anyone who wished to might scalp the dead. Neither the killing nor the scalping was regarded as an especially creditable act. The chief applause was won by the man who first could touch the fallen enemy. In Indian estimation the bravest act that could be performed was to count coup on — to touch or strike — a living unhurt man and to leave him alive, and this was frequently done. Cases are often told of where, when the lines of two opposing tribes faced each other in battle, some brave man rode out in front of his people, charged upon the enemy, ran through their line, struck one of them, and then, turning and riding back, returned to his own party. If, however, the man was knocked off his horse, or his horse was killed, all of his party made a headlong charge to rescue and bring him off.

When hunting, it was not unusual for boys or young men, if they killed an animal, especially if it was an animal regarded as dangerous, to rush up and count coup on it. I have been told of cases where young men, who, chasing a black bear on the prairie, had killed it with their arrows, raced up to it on foot to see who should count the first coup.

It was regarded as an evidence of bravery for a man to go into battle carrying no weapon that would do any harm at a distance. It was more creditable to carry a lance than a bow and arrows; more creditable to carry a hatchet or war club than a lance; and the bravest thing of all was to go into a fight with nothing more than a whip, or a long twig — sometimes called a coup stick. I have never heard a stone-headed war club called coup stick.

It was not an infrequent practice among the Cheyenne—as indeed among other plains tribes—for a man, if he had been long sick and was without hope of recovery, or if some great misfortune had happened to him and he no longer wished to live, to declare his purpose to give his body to the enemy. In practice this meant committing suicide by attacking enemies without any suitable means of offense or defence, doing some very brave thing, and being killed while doing it. This, of course, was a most honorable way of dying, far more so than to kill one's self by shooting, by the knife, or by the rope, though there was no disgrace in self-destruction. Suicide by hanging, however, was usually confined to girls who had been crossed in love.

There is still living in Montana a man who, when seventeen or eighteen years of age, after a long illness to which there seemed no end, declared to his father that he wished to give his body to the enemy. The father assented, fitted out the son with his strongest "medicine," and sent the boy off with a party to the south, armed only with a little hatchet. After the party had reached the country of the enemy, two of these, who were Omaha, were discovered returning from the hunt. Both had guns. The Cheyenne charged on them, and the boy, Sun's-road, having been provided with his father's best war horse, led. He overtook one of the enemy who turned and tried to shoot at him, but the gun snapped. Sun's-road knocked the man off his horse with his little hatchet and riding on overtook the other man, who turned and shot at him; but Sun's-road dropped down on his horse, avoided the bullet, and knocked the Omaha off his horse. Both enemies were killed by the Cheyenne who were following Sun's-road. The young man had now fulfilled his vow. He received from the members of the war party, and from the tribe when he returned to the village, the greatest praise. He recovered his health, and now at the age of seventy-four or seventy-five years still tells the story of his early adventures.

The Cheyenne counted coup on an enemy three times; that is to say, three men might touch the body and receive credit, according to the order in which this was done. Subsequent coups received no credit. The Arapaho touched four times. In battle

the members of a tribe touched the enemy without reference to what had been done by those of another allied tribe in the same fight. Thus in a fight where Cheyenne and Arapaho were engaged the same man might be touched seven times. In a fight on the Rio Grande del Norte, where Cheyenne, Arapaho, Comanche, Kiowa, and Apache defeated the Ute, the counting of the coups by the different tribes resulted in tremendous confusion.

When a Cheyenne touched an enemy the man who touched him cried "ah haih" and said "I am the first." The second to touch the body cried "I am the second," and so the third.

It is evident that in the confusion of a large fight, such as often took place, many mistakes might occur, and certain men might believe themselves entitled to honors which others thought were theirs. After the fight was over, then, the victorious party got together in a circle and built a fire of buffalo chips. On the ground near the fire were placed a pipe and a gun. The different men interested approached this fire, and, first touching the pipe, called out their deeds, saying, "I am the first," "second," or "third," as the case might be. Some man might dispute another and say, "No, I struck him first," and so the point would be argued and the difference settled at the time.

Often these disputes were hot. I recall one among the Pawnee about which there was great feeling. A Sioux had been killed and Baptiste Bahele, a half-breed Skidi and sub-chief, and a young man of no special importance, were racing for the fallen enemy to secure the honor of touching him first. Baptiste had the faster horse and reached the body first, but, just as he was leaning over to touch it, the animal shied and turned off, so that what he held in his hand did not actually touch the body, while the boy who was following him rode straight over the fallen man and struck him. Baptiste argued plausibly enough that he had reached the body first and was entitled to be credited with the coup, but acknowledged that he did not actually touch the body, though he would have done so had his horse not shied. There was no difference of opinion among the Indians, who unanimously gave the honor to the boy.

Once two young Cheyenne were racing to touch a fallen enemy. Their horses were running side by side, though one was

slightly ahead of the other. The man in advance was armed with a sabre, the other, almost even with him, was leaning forward to touch the enemy with his lance. A sabre being shorter than a lance, the leading man was likely to get only the second coup, but he reached down, grasped his comrade's lance, and gave it a little push, and it touched the enemy as they passed over him. Although the owner of the lance still held it, yet because his hand was behind his fellow's on its shaft, he received credit only for the second coup. If a man struck an enemy with a lance, anyone who touched or struck the lance while it was still fixed in or touching the enemy's person, received credit for the next coup.

A man who believed he had accomplished something made a strong fight for his rights and was certain to be supported in his contention by all his friends, and above all by all his relatives. When disputes took place, there were formal ways of getting at the truth. Among the Cheyenne a strong affirmation, or oath, was to rub the hand over the pipe as the statement was made, or to point to the medicine arrows and say, "Arrows, you hear me; I did (or did not do) this thing." The Blackfeet usually passed the hand over the pipe stem, thus asseverating that the story was as straight as the hole through the stem.

With the Cheyenne, if there was a dispute as to who had touched an enemy, counting the first coup, a still more formal oath might be exacted. A buffalo skull, painted with a black streak running from between the horns to the nose, red about the eye sockets, on the right-hand cheek a black, round spot, the sun, and on the left a red half-moon, had its eye sockets and its nose stuffed full of green grass. This represented the medicine lodge. Against this were rested a gun and four arrows, representing the medicine arrows. The men to be sworn were to place their hands on these and make their statements. Small sticks, about a foot long, to the number of the enemies that had been killed in the fight which they were to discuss were prepared and placed on the ground alongside the arrows and the gun.

In a mixed fight where many people were engaged there were always disputes, and this oath was often — even usually — exacted. A large crowd of people, both men and women, assembled to witness

the ceremony. The chiefs directed the crier to call up the men who claimed honors, in the order in which they declared that they had struck an enemy; the man who claimed the first coup first, he who claimed the second coup second, and so on. The man making the oath walked up to the sacred objects and stood over them, and stretching up his hands to heaven said, *Mā i yān asts' nī ah'tā*, "Spiritual powers, listen to me." Then, bending down, he placed his hands on the objects, and said, *Nā ut'shā*, "I touched him." After he had made his oath he added, "If I tell a lie, I hope that I may be shot far off."

He narrated in detail how he charged on the enemy and how he struck him. Then were called the men who counted the second and third coup on this same enemy and each told his story at length. Next the man who touched the second enemy was called, and he was followed by those who had counted the second and third coup on the same individual. In the same way all claimants told their stories.

If, under such circumstances, a man made a false statement, it was considered certain that before long he or some one of his family would die. The Cheyenne feared this oath, and, if a man was doubtful as to whether he had done what he claimed, he was very likely not to appear when his name was called. On the other hand, each of two men might honestly enough declare—owing to error—that he first touched an enemy. Or, a man might swear falsely. In the year 1862, a man disputing with another declared that he had first touched the enemy. The next year, while the Cheyenne were making the medicine lodge on the Republican river, this man died, and everyone believed, and said, that he had lied about the coup of the year before.

When two men were striving to touch an enemy and others were watching them, and the thing was close, the spectators might say to one of the two, "We did not see plainly what you did, but of what he did we are certain." In this way they might bar out from the first honor the man concerning whose achievement they were doubtful. As already said, the relatives of each claimant were active partisans of their kinsmen.

If enemies were running away and being pursued, and one fell behind or was separated from his party, and was touched three

times, if he escaped serious injury and later got among his own people once more, the coup might again be counted on him up to the usual three times.

As an example of the odd things that have happened in connection with the practice of touching the enemy, according to Cheyenne rules, the curious case of Yellow-shirt may be mentioned. In the great battle that took place on Wolf creek in 1838, between the allied Kiowa, Comanche, and Apache on one hand, and the Cheyenne and Arapaho on the other, coup was counted on Yellow-shirt¹, a Kiowa, nine times. When the charge was made on the Kiowa camp, Yellow-shirt was fighting on foot and was touched three times, but not seriously injured. Later, he reached his village, mounted a horse, came out to fight and was touched three times on horseback. Almost immediately afterward his horse was killed and his leg broken, and he sat on the ground, still fighting by shooting arrows, and was again touched three times and killed. So in all nine coups were counted on this man, all of which were allowed. In another case coup was counted nine times on a Pawnee, who was not killed and finally got away.

If, through some oversight, the third coup had not been formally counted on an enemy, the act of taking off his moccasins as plunder has been decided to be the third coup, because the man who removed them touched the dead man's person. Coup, of course, might be counted on man, woman, or child. Anyone who was captured would first be touched.

There were other achievements which were regarded as sufficiently noteworthy to be related as a portion of a triumph, but which were in no sense comparable with the honor of touching an enemy. Such brave deeds, among the Blackfeet, were the taking of a captive, of a shield, a gun, arrows, a bow, or a medicine pipe, any of which acts might be coupled with touching an enemy.

Among the same people it was highly creditable to ride over an enemy on foot, and in the old time dances of the different bands of the All-comrades, horses were frequently painted with the prints of a red hand on either side of the neck and certain paintings on the breast intended to represent the contact of the horse's body with the enemy.

¹ So called by the Cheyenne from his war shirt. His Kiowa name was Sleeping-bear.

Among the Cheyenne the capture of a horse or horses was such a brave deed, and, if the man who had touched an enemy took from him a shield or a gun, the capture of this implement was always mentioned. The drum would be sounded for touching the enemy, sounded again for the capture of the shield, again for the capture of the gun, and—if the man had scalped the dead—for the taking of the scalp.

I believe that the high esteem in which the act of touching the enemy is held is a survival of the old feeling that prevailed before the Indians had missiles and when—if they fought—they were obliged to do so hand to hand, with clubs and sharpened sticks. Under such conditions only those who actually came to grips, so to speak, with the enemy—who met him hand to hand—could inflict any injury and gain any glory. After arrows came into use it may still have been thought a finer thing to meet the enemy hand to hand than to kill him with an arrow at a distance.

The general opinion that the act of scalping reflects credit on the warrior has no foundation. The belief perhaps arose from the fact that, when an enemy was killed or wounded, brave Indians rushed toward him. White observers have very likely inferred that those who were rushing upon an enemy were eager to take his scalp. As a matter of fact they cared little or nothing for the scalp but very much for the credit of touching the fallen man. Most people are untrustworthy observers and draw inferences from their preconceived notions, rather than from what actually takes place.

As already said, among the plains tribes a scalp was a mere trophy and was not highly valued. It was regarded as an emblem of victory and was a good thing to carry back to the village to rejoice and dance over. But any part of an enemy's body might serve for this, and it was not at all uncommon among the Blackfeet to take off a leg or an arm, or even a foot or hand, to carry back and rejoice over for weeks and months. Very commonly, a party returning from war would give one or more scalps to a group of old men and old women, who would paint their faces black and carry the scalp all about through the village dancing at intervals, singing the praises of the successful warriors, making speeches in their honor, and generally rejoicing. Scalps were sometimes sacrificed among all these

tribes, perhaps burned, as by the Pawnee, or among Cheyenne and Blackfeet tied to a pole and left out on the prairie to be rained on and finally to disappear in the weather. Scalps were used to trim and fringe war clothing — shirts and leggings — and to tie to the horse's bridle in going to war. Usually the scalps taken were small, a little larger than a silver dollar, but like any other piece of fresh skin they stretched greatly.

When, on the warpath, a scalp had been taken by a young Cheyenne who had never before scalped an enemy, it was necessary that he be taught how to treat the scalp, how to prepare it for transportation to the village. Instruction in this ceremonial was given by some older man familiar with such things, who in times past had himself been taught by a man older than he how the scalp should be handled. Before any work was done, the pipe was filled and lighted and held toward the sky and to the ground, and then the stem was held toward the scalp and a prayer was made asking for further good fortune. The instructor lighted the pipe and made the prayer.

Previous to this a large buffalo chip had been procured, and it was placed on the ground before the instructor and between him and the fire. The instructor took in his mouth a piece of bitterroot and some leaves of the white sage, and masticated them a little. The learner stood before the instructor and held his hands out before him, palms up and edges together, and the instructor spat ceremonially on the palm of each hand. The young man made the usual motions, rubbing his hands together and then passing the right hand over the right leg, from ankle to thigh, and the left hand over the right arm from wrist to shoulder, using the left hand on the left leg and the right hand on the left arm. He then passed his hands over his face, and then backward over his hair and the sides of his head. These, of course, are the usual ceremonial motions.

The scalp was now placed on the buffalo chip, flesh side up. The instructor sat close by the young man and directed each one of the various operations which follow. The learner took from the fire a bit of charcoal and rubbed it over both sides of a knife, from hilt to point; he held the knife over the scalp and said, "May we again conquer these enemies; and, if we do so, I will cut this again in the same way." With the point of the knife he now made a cross-cut

over the scalp from north to south, and another from east to west, always beginning at the edge of the skin away from himself, or toward the fire, and drawing the knife toward him. The point of the knife passed through the flesh still remaining on the skin and down to the skin, dividing this flesh or fascia into four sections. The learner now took the scalp in his hands and beginning at the outer side of the circle shaved off the flesh from the quadrant toward the east and placed it on the buffalo chip. Next he shaved off from the skin the quadrant toward the south, and this flesh so taken off was put in its place on the buffalo chip. The quadrant toward the west was then taken off and placed on the chip, and last the quadrant toward the north was removed and put on the chip. Thus, the four sections of flesh trimmed from the scalp lay on the buffalo chip in their proper relations.

Now some young man was called up and was told to carry the buffalo chip away, and leave it on the prairie. Before he started, the learner told him that he must ask the *Manyān'* (the Mysterious Ones, the Spirits) to take pity on him, that he might be aided to count a coup.

The young man now bent a willow twig, already provided, into a hoop, lashing the two ends together with a sinew. Then with sinew and awl the margin of the scalp was sewed to the hoop to stretch it. If the hoop was too large and the scalp did not reach it, the scalp was made larger by cutting short holes about the margin and parallel to it. The sewing was done from east to south, to west, to north, and to east. A slender willow pole six feet long, trimmed and peeled, and sharpened at the butt, with a notch cut in the other end, had already been prepared. By a string tied to the hoop the scalp was fastened to this pole, the sharpened butt of which was then thrust into the ground. If convenient, all this was done on the day the scalp was taken, at all events as soon as possible. When travelling, the willow pole to which the scalp was attached was carried on the left arm. The scalp was taken back to camp on this pole and remained attached to it during all the dancing that took place.

Among the Cheyenne the scalp dances of modern times have not been at all the same as those of earlier days. The last of those, I am told, took place in 1852.

Anyone familiar with Indians and Indian ways will understand that the various dances that they practice are not merely haphazard jumpings up and down and posturings, to the music of chance singing. The ceremonial of the various dances is perfectly well defined, and the songs are well known and as invariable as if they had been printed. There was a regular way and ceremonial about the old time scalp dance. While in a sense a triumph dance, it was also very largely social in character. The account which I give of it comes to me from George Bent, son of the famous Colonel William Bent, whose mother was a Cheyenne woman, and who has lived with the Cheyenne practically all his life. He is a man of good intelligence and some education, and entirely trustworthy.

These old time scalp dances were directed by a little group of men called "halfmen-halfwomen," who usually dressed as old men. All belonged to the same family or group to which Oak (*Öüm'sh*) belonged. It was called *Ötto ha nth'*, "Bare legs." It is possible that this may be the same band or clan which I have elsewhere spoken of under the name *Ölk to an'a*. Of these halfmen-halfwomen there were at that time five. They were men, but had taken up the ways of women. Their voices sounded between the voice of a man and that of a woman. They were very popular and especial favorites of young people, those who were married as well as those young men and young women who were not married, for they were noted matchmakers. They were fine love talkers. If a man wanted to get a girl to run away with him and could get one of these people to help him, he seldom failed. When a young man wanted to send gifts for a young woman, one of these halfmen-halfwomen was sent to the girl's relatives to do the talking in making the marriage.

The five men above referred to were named Wolf-walking-alone, Buffalo-wallow, Hiding-shield-under-his-robe, Big-mule, and Bridge. All these men died a long time ago, but in more recent times there were two such men, one living among the Northern Cheyenne and the other among the Southern. These men had both men's names and women's names. The one among the Northern Cheyenne was named Pipe and his woman's name was Pipe-woman. He died in 1868. The one who lived with the Southern

Cheyenne was named Good-road and Good-road-woman. He died in 1879. These were the two last of these people in the Cheyenne tribe.

When war parties were preparing to start out, one of these persons was often asked to accompany it, and, in fact, in old times large war parties rarely started without one or two of them being along. They were good company and fine talkers. When they went with war parties they were well treated. They watched all that was being done and in the fighting cared for the wounded. They were doctors, or "medicine men," and were skilful in taking care of the sick and wounded.

After a battle the best scalps were given to them, and when they came in sight of the village on their return they carried these scalps on the ends of poles. When they came to the village the men who carried the pipes — the leaders of the war party — and the halfmen-halfwomen carrying the scalps went ahead of the party and ran along outside the village and waved the scalps tied to the poles. This took place usually in the early morning, so that the village should be taken by surprise. The old men, the women, and the children, rushed out to meet the war party. If the members of a war party had their faces blackened when they came in, this showed that the party had not lost any of its members. If one of the party had been killed, the scalps were thrown away and there were no scalp dances on the return. If a person had counted a coup and had been killed, the scalp dance went on just as if no one had been killed. It was a great honor for a person to count coup first, and then afterward to be killed in the same fight. His relations did not mourn for him, but, instead, joined in the scalp dance which took place that night.

The great scalp dance took place in the evening in the center of the village. The halfmen-halfwomen went to each lodge and told the owner to send some wood to the center of the village for the big dance that was to take place that night. As the people brought the wood, the halfmen-halfwomen built it up as a pile, in the shape of a lodge. It was a cone, wide at the bottom and small at the top, made by standing the sticks of wood on end. All about and under it was put dried grass ready for the fire at any time. This pile of

wood was called "skunk" (*hka'o*). The "skunk" was lighted when a majority of the good singers with their drums reached the place. The singers were chiefly middle-aged men, all married. Then the singers and drummers began their songs, and everybody came to the dance, all of them painted with red paint and black paint. All the older persons had their faces and bodies painted black. The men wore no shirts, and the old women had their bodies blackened from the waist up. In the center of the village the drummers stood in a row, facing the opening in the circle. The young men stood in a row facing the north; the young women stood in a row facing the young men, and so looking south. The old women and the old men took their places down at the lower end of the young people, and faced west. The halfmen-halfwomen took their places in the middle of this square and were the managers of the dance. No one was allowed in the middle of the square except these persons.

The dance now commenced. The women began to dance in line toward the center, and the young men all walked around behind the drummers to the girls' side of the square, placed themselves behind their sweethearts, and each put one arm through an arm of one of the girls and danced with her in that way. This was called "the sweethearts' dance."

After dancing for a time they returned to their places and stood in rows as before. The halfmen-halfwomen danced in front of the drummers, holding the poles to which scalps were tied and waving the scalps while dancing. At the other end old women danced, also carrying scalps tied on poles. The old men whose sons had counted coup also danced at the lower end. These old men and old women often acted as clowns, trying to make the people laugh. Some of them were dressed like the enemies that had been killed.

The next dance was called "the matchmaking dance," and the songs sung were different from those sung in the one before. If in this dance there were two of these halfmen-halfwomen, one went over to the line of young men and one to the line of young women and asked the different dancers whom they would like for partners. Then the two halfmen-halfwomen came together in the center and told one another whom to select. All this time the singers and

drummers were making their music. The halfmen-halfwomen then walked to the young men and took them by the robes and led them across to where their sweethearts were standing, and made the men stand by the girls. In this dance no one might begin to dance until every woman had her partner. Two men might not stand together. Men always stood between women.

After all the women had their partners, all those in this row danced toward the center and then danced back not turning at all. Several times they danced back and forward; then the halfmen-halfwomen said to the young men, "Go back to your places."

If the night was dark the big fire was kept up by the boys, but if the moon was full less firelight was needed.

After a time the halfmen-halfwomen called out the third dance, telling what dance it was. The young men and young women danced toward each other in two long rows, and then danced back again. After a time the halfmen-halfwomen called out "Select your partners," and each man crossed over to get his sweetheart as a partner, and the young women when told to select their partners also crossed over and met their sweethearts. After all had partners—for the men and the women were equal in number—they formed a ring around the big fire and danced about it. In this circling dance the drummers and singers also fell in, and the whole ring danced to the left about the fire. The old women and the old men got in the center of the ring, holding the scalps which they waved in the air. The halfmen-halfwomen danced around outside the ring, and danced to the right hand. With the scalps tied to poles they kept the young girls and the boys away from the dancers, for the boys and girls were afraid of the scalps. In this way they kept the children from crowding close to the dancers.

After dancing for some time in this way, the halfmen-halfwomen told the drummers and singers to put the women inside in this round dance. While the young men were going around the ring, now and then one of them would step inside and put an arm around his sweetheart's neck. After this had gone on for some time, all fell back as before into their old places—the drummers and singers to their places, and the young men and women to theirs.

Soon the fourth dance was called by the halfmen-halfwomen,

and the singers started up a different song for this. This dance was called "the slippery dance." In this only women danced, two of them together; in other words, they danced in pairs. These women danced up to their sweethearts and took hold of their robes and then danced back to the center, leading the young men out. The young men did not dance, for the slippery dance was practiced by women only. The young men walked after those who were holding them and were held by their sweethearts until the men's sisters had presented to the sweethearts a ring or a bracelet. This process was called "setting them free." Sometimes a young fellow went up and presented a ring or a bracelet to have his friend set free.

After this dance the halfmen-halfwomen told the dancers to rest for a time and asked that some one should bring water for the dancers. The assembly partly broke up. Women would go away to tie up their legs, for, as they wore buckskin dresses, and the next dance was to be a stooping dance, the dresses might get in their way, be stepped on, and trip them up. This was the last dance, called "the galloping buffalo-bull dance."

When all had returned the halfmen-halfwomen told the people to sit down, and all took their places. The drummers and singers also sat down. When the singing and drumming began three or four women arose and danced toward the men, and when they had come close to them stooped down and turned their backs toward the men and danced before them. Then just as many men as there were women stood up and danced, joining the women; the men stooped also, just like the women. More women danced out and men joined them, and at length all the men and women came together and the whole party of them danced in a long row, all stooping down, dancing like a bull galloping. The halfmen-halfwomen would then say, "Go round in a circle," and all the dancers stood erect and began the circle dance of round dances, while the drummers and singers joined them in the circle. In this round dance everyone sang as they went around. By this time it was nearly morning, and the dance at last broke up, the people returning to their homes.

These dances were all scalp dances.

NEW YORK CITY.

BOOK REVIEWS

An Ethnologic Dictionary of the Navaho Language. THE FRANCISCAN FATHERS. St. Michaels, Arizona, 1910. $9\frac{1}{2} \times 6\frac{1}{4}$. 536 pp., ills.

There is something new in the world, not in an absolute sense, not actually new material, but a new combination. This sometimes happens when a strange name appears on the menu and a piqued curiosity is satisfied by ordering it. One concludes at the first glance in this case that something has gone wrong in the kitchen and that two separate courses have become mixed. What we have here seems to be an ethnological treatment of the Navaho intermingled with copious linguistic material. Both are good and desirable but perhaps not in combination for all interested. Many are interested in ethnology but too little interested in linguistics to care for the many native terms and phrases which occur in the body of the paragraphs as well as follow them. Such persons should read the introduction and then turn to the subject of "food" on page 204. When the end of the book is reached, the appetite will still be unsatisfied, and the preceding pages may be gleaned for crumbs.

An ethnological work should first of all contain facts, new and certain; there should be some logical grouping of the facts, not only for ease in finding them but also to produce a harmonious picture in the reader's mind; and lastly some comments are usually expected dealing with the evolution of the matters treated and the occurrence of similar facts among neighboring peoples. For the present, the gathering and presentation of facts is of prime importance. The new critical attitude in anthropology requires that we know whether facts are directly observed, given on the word of a native, or are the oral or written report of another observer.

It is to be assumed that the larger portion of the material here presented is the result of direct observation for which the Franciscan Fathers have had exceptional opportunity. The Franciscan Fathers have an advantage in numbers and the opportunity of being continuously with the Navaho for many years, while the professional ethnologist works alone and can usually devote but a few months in the aggregate to work among a people. It is often a matter of chance as to which phase and how much of primitive activity he shall witness. Observed facts are most valuable and need to be scrutinized only to know if the activity witnessed be normal and representative. Matters reported by natives need critical care, and the

independent statements of several individuals should be compared. The ideal method seems to be the reporting of these differing and often conflicting statements, and the adding of the author's own opinion as to which is the most probable. Some informants name and describe mythical animals as if they were real. Former conditions of life are sometimes described by Indians where the statements are prompted by a desire to explain the origin of present conditions or to fill up the void of the great unknown past. Unless an Indian has himself seen these things or has been told by others who have seen them, little dependence can be placed on the statements. A sentence in the preface indicates that considerable care has been taken in this important matter. Several felines are distinguished as probably mythical on page 140. However, the primitive type of house (p. 327) and the early costume (p. 457) described may be mental reconstructions of a mythical era. The neighboring and related Apache tell in considerable detail of a culture which existed before they were possessed of bows and arrows, when food and wearing apparel derived from the larger animals were entirely lacking. It is needless to say that the bowless period was well before the date of trustworthy tradition. There may still be Navaho who wear clothing of yucca fiber, but it seems hardly necessary to suppose that there was ever a time when the Navaho as distinguished from other primitive men were restricted to such clothing.

Of the facts reported from others, the greater number are taken from the works of Dr Washington Matthews. While due credit is given in all cases, one would have been thankful for footnotes giving exact references to publication and page. In the case of another authority, unnecessary consideration has been shown in applying academic honors where such are possessed only by courtesy.

The arrangement of the ethnological material is such as to be fairly accessible. From the title of the work one might have expected the matter to have been presented according to the alphabetical or dictionary-encyclopedia method. One is rather agreeably surprised to find in the latter portion of the book such grouping as is customary in ethnological monographs. The material here presented is exceedingly welcome, first because of the great importance of the people treated and second because, although much has been written of the Navaho, anything like a complete and consistent statement of their material culture has not previously been made. For a general treatise the ground seems to have been carefully and adequately covered. To be sure a volume or two sometimes need to be written upon such special topics as blanket making. There might be no limit to the number of volumes dealing with the ceremonial life of the Navaho.

The authors have made little attempt at an explanation of the origin of the present culture of the Navaho, and these few comments are usually stated as personal opinions, not as settled conclusions. Such suggestions are valuable since they furnish stimulation for further inquiry and thought upon these interesting problems. The whence and when of the Athapaskan migration is a difficult problem that needs for its consideration light from a large number of sources. All the other Athapaskan peoples, north and south, and also their non-Athapaskan neighbors, need to be carefully studied. The sources and evolution of the present Navaho culture can hardly be determined from a study, however prolonged and intensive, of the Navaho alone. The beliefs which the Indians themselves may have concerning the subject, valuable for the student of psychology and folklore, can throw but little light upon the problem. We need to know in detail the cultures of the surrounding and preceding peoples. We need to understand that the culture of a people is not an unchanging thing taken over as a whole from ancestors and neighbors, but is a growing, developing social product depending upon physical environment and social contact, the chief controlling factors. For example, it is not likely that the Navaho obtained their present art of blanket making from one definite people or that all designs upon them are borrowed. Blanket making more probably was slowly evolved under the influence of Spanish and Pueblo neighbors, and the art forms exhibited in them may have been already long imbedded in Navaho life before blankets were ever woven. This much is said, not in criticism of things contained or omitted in the volume here reviewed, but as an indication of other problems to be undertaken.

It seems certain from the words of the title and the preface that the portion of the work which non-linguistic readers have been advised to omit is the part nearer the hearts of the authors and that upon which a judgment of the work should be made. Again, it may be said that the volume is welcome because of the importance of the language treated and because a satisfactory linguistic work on the Navaho has never previously appeared. Dr. Matthews has published a few texts in the "Navaho Legends" and a considerable number of ceremonial ones in the "Night Chant." He included in these and his other works many Navaho words and phrases, but it must be conceded, even by an ardent admirer of Dr. Matthews' work, that he never quite conquered the phonetics of the Athapaskan. This may have been due in part to a difficulty in hearing, noticeable in the later years of his life. It must be acknowledged that he used the same symbols in some cases for quite distinct sounds and that he overlooked

the glottal stops which are of vital importance in the treatment of the language.

Our authors have been more fortunate. Here again their numbers and long, continuous contact with the Navaho have aided them. Their representation of the language has been thorough and consistent, and these are the two essentials. But the descriptions given of the sounds represented do not quite convince one that they fully understand the processes involved in the sounds, which one cannot doubt they are able to speak with a high degree of accuracy. The "abrupt close of the vowel" represented by ' is followed in emphatic speech by a distinct sound marking the release of the glottis, the closure of which produces this abruptness. The hiatus between vowels (a'a) is of the same sort but of less duration and completeness. The "hiatus proper" is an aspiration, a forcing of surd breath through the releasing glottis forming the off-glide of the vowel. Now, when the glottal action is synchronous with or closely following a surd consonant, the "clicking" is produced, although it does not seem that the Navaho sounds are inspired as is said to be the case with clicks in Africa. The authors have quite consistently written, ch', ts', tl', t', and k'. One wishes equal consistency had been employed with the aspirated consonants and that the mark ' used to show aspiration after the vowel had been placed after them, ch', ts', t', k'. The letter q when standing alone has been used for a distinct continuant consonant requiring an approximation of the back of the tongue to the palate at one or more definite points. This sound is with minor exceptions quite different from the surd glide following the consonants, ch, ts, and t, written by our authors chq, tsq, and tq. It is only accidental that the tongue in passing from the position of t to a following vowel occupies for an instant the position which in the continuant consonant, represented when initial by q, is taken and held for a definite time.

The treatment of nasalized vowels seems happy and much to be preferred to the use of an exponent n. The sound ñ might with better reason have been called syllabic "n" since it, unsupported by a vowel, forms a syllable regardless of whether the stress rests upon that syllable. There is a good old adage about "glass houses, etc.," that one had better recall before saying too much in criticism of a surprisingly adequate treatment of an exceedingly difficult subject.

When one perceives that the emphasis in this book is upon the linguistics and not the ethnology, the unusual combination explains itself. It is open to doubt whether the ethnology contained is sufficiently improved by the addition of so much linguistic material to warrant its inclusion. But, if the chief desire has been to present linguistic material, the presentation of the

ethnological material becomes a secondary matter. Linguistic material connected and interwoven with the objects and activities to which it is related becomes doubly valuable.

Linguistic material has generally been presented in one of two forms. Texts with translations presenting the words and phrases in a context reveal shades of meaning very difficult to convey by any number of near-equivalent words in another language. The text method is expensive in both time and money. The more common words and phrases must be repeated many times. Furthermore, these texts often do not present the more general aspect of a language. The style, if not the words themselves, belong to a "literary" dialect. The common dictionary-grammar method presents the language dead and dissected. In a dictionary the delicate shades of meaning can hardly be given. In a grammar the real truth, the actual structure, suffers violence because of the constraint of categories and paradigms to which the language is reduced.

The authors seem to have attempted, and to a considerable degree succeeded, in a presentation of the language in its living form as they have met it in their daily life among the Navaho. Persons interested in American languages from the scientific standpoint alone, usually study them with a view of translating and interpreting them into English. Our authors are engaged in learning to express themselves in Navaho. When a subject is to be considered they wish to be able to recall the words and phrases connected therewith.

One hesitates to say that either the method followed in this work or that of texts is the better to the exclusion of the other. Both have their advantages and perhaps ought both to be employed whenever practicable. The text method seems better adapted to an inductive study and presentation of the material. The question arises whether the order and method of presentation here employed will be convenient when one wishes to use the material for comparative study. Probably a strict alphabetical arrangement would have been more available.

To one who is acquainted with the hospitality of the Franciscan Fathers it occurs that perhaps this is not after all a one-course meal and that the dessert will be forthcoming. With keen appreciation of what has already been received one may safely anticipate a more complete presentation of the Navaho language in the future.

PLINY EARLE GODDARD.

The Garos. By MAJOR A. PLAYFAIR. *With an Introduction by Sir J. BAMPFYLDE FULLER.* Published under the orders of the Government of Eastern Bengal and Assam. London: David Nutt, 1909. 8°, 172 pp.

The available information regarding the castes and tribes of Assam is scattered in several places. The introduction to the book by Sir J. B. Fuller informs us of the happy decision of the government of Assam to bring together, add, and correct the information in form of special monographs, each dealing with a single tribe or caste. The one before us forms a part of the project; the author has performed his task with great zeal and care. In the opinion of the reviewer the most important part of his work is the one which discusses the origin and affinities of the Garos.

The writer concerns himself with the Hill Garos and contrasts them with the Plain Garos. The Hill Garos are a community of over one hundred thousand, inhabitants of an inaccessible tract of mountainous country covered with dense forests, and have remained free from foreign elements, until the advent of the British a short time ago. It would be difficult to pick out a dozen Hill Garos who have forsaken their animistic creed for the Hindu religion (p. 18). Mr. Playfair discusses the question of migration of the Garos. He tells us that in bygone ages the ancestors of the Garos, and of many tribes with which they are allied, came from Thibet and having crossed the Himalayas settled in the plains at their foot. The tribes or castes closely allied to the Garos are the Koch, the Kacharis, the Rabbias, the Bodos, etc. The reviewer is not aware of anything that would go against the premises from which Major Playfair draws his conclusions. Though the previous habitat of the above mentioned tribes may be considered as known, the periods during which they migrated are not yet known.

The book often refers to the progress made by missionaries in evangelization of the race, and speaks of fairly numerous villages that have become entirely Christian (p. xii). The reader misses very much a numerical statement of the Christian Garos, showing the strength of Christianity within the whole tribe. In the opinion of the reviewer the chances of the Garos becoming entirely Christian would be in inverse ratio with the economic development of the Hills which may bring a Hindu population in contact with the Garos. As Hinduism needs no conversion, simple intercourse with Hindus would result in the final adoption by the Garos and other animistic tribes in India of the Hindu social system popularly known as Hinduism. Notwithstanding the labors of the missionaries, Hinduization of the Garos would not be difficult inasmuch as they have a tradition of being descended from a Brāhmana who fell in love with a Thibetan damsel (p. 12).

The information in the monograph would have been more complete had

the author given some of the earliest allusions to the Garos in the documents of the rulers of Bengal.

A custom regarding the administration of an oath among the Garos suggests, that when the Brāhmana Dharma-writers of India laid down the rule regarding a long oath for a Shudra, they might have simply sanctioned the custom that prevailed among the uncivilized Hindu tribes of that day. "The Garo oath is a long one, and consists, first, of the declaration of truth of the coming statement, and then of calling down upon the speaker all the worst evils that can be imagined, should he speak falsely" (p. 75). Compare with this *The Laws of Manu* (viii, 88 ff.). "'Speak' thus let him (the judge) ask a Brāhmana. 'Speak the truth' thus let him address a Kshatriya. A Vaishya should be admonished by mentioning his kine, grain and gold. A Shudra by threatening him with the guilt of every crime, saying, whatever places of torments are assigned by sages, to the slayer of a Brāhmana, to the murderer of women and children, to him who betrayed a friend, and to an ungrateful man, those shall be thy portion if thou speakest falsely." This statement in the *Laws of Manu* is followed by twelve more verses in order to advise Shudra of his responsibility, and of sins that would fall upon his head in case he spoke a lie.

The book is properly systematized and would serve as an admirable work of reference on any anthropological topic.

SHRIDHAR V. KETKAR.

The Development of Religion: A Study in Anthropology and Social Psychology. By IRVING KING, Ph.D., State University of Iowa. New York: The Macmillan Company, 1910. 8 × 5½, pp. xxiii, 371. (\$1.75 net.)

Dr King's point of view is "that the religious attitude has been built up through the overt activities which appear in primitive social groups, activities which were either spontaneous and playful or which appeared with reference to meeting various practical needs of the life-process, and that the development of emotional values has been mediated through the fact that these activities were in the main social" (p. viii). From this point of view he treats in successive chapters of the possibility and the scope of the psychology of religion; preliminary questions regarding the evolution of religion; the consciousness of value; the genesis of the religious attitude; the origin of religious practices; the mysterious power; magic and religion; further considerations regarding the evolution of the religious attitude; origin and development of concepts of divine personages; the problem of monotheism and the higher ethical conceptions of the deity; religion and morals, with special reference to

the Australians; apparent connection of religion with pathological experiences; religious valuation and supernaturalism. These topics are all discussed with breadth and precision of thought and with abundant citations of authorities; the volume is highly interesting and suggestive.

The expression "social psychology" in the subtitle indicates the author's insistence on the social element in religion. In this he is perfectly right, for though if there were only one man in the world he might be religious, it is true that existing religion, like all civilization, has come through communal action; but he is not inclined to lay stress on the term, and in fact social psychology appears in his discussion to be simply a combination or outcome of the psychological life of individuals. His main object is to set forth a natural history of religion over against theories that refer it to supernatural revelation or to a vague instinct of the infinite; and in this he seems to me to be successful. At the same time he is careful to point out that the reference of the origin of religion to man's natural impulses does not impugn its significance for life. Most of the recent writers on the origin of religion trace the form and content of religious practices to the economic and other conditions of early life. With this view Dr King is in accord, but he makes the relation in question more intimate than is usually done. Human activity in its earliest forms, he holds, is little more than instinctive, unreflecting response to external stimuli—it becomes more complicated by accidental association and by efforts to adapt means to ends (thus, pointing charmed sticks at an enemy and executing a war dance or carrying on a sham battle are expressions of the impulse to activity). In this way complicated actions grow up and are handed on from generation to generation, expressing situations that are interesting, that is, valuable, to the community, and in this way the religious values have arisen: "the religious consciousness itself is organically related to the development of intermediate adjustments between the stimulus to activity and the end toward which it is directed" (p. 47). In other words early man notes only what is valuable to him and in a sort organizes his valuable experience, and these constitute the material of religion. But how do they become religious? Through the social group, says Dr King: "the social group may be said to furnish the matrix from which are differentiated all permanent notions of value" (p. 84); these values may be æsthetic or religious according to circumstances—the æsthetic, looking to enjoyment, are detached from the problems of life, the religious are expressions of these problems in their ultimate form. This explanation, however, is not wholly satisfactory—it seems to leave out the very point to be explained. Ethical

values also may be expressions of the problems of life in their ultimate form, and social feeling leads rather to civic development than to religion. It is true that, as a rule, religious development goes hand in hand with general social development, but it does not follow, as Dr King appears to hold (ch. iv and elsewhere), that the two stand to each other in the relation of effect and cause. The differentia of religion — the relation to extrahuman power — is thus left unnoticed. True, Dr King speaks of the belief in a mysterious power in the world (*mana* or *manitu*) as a "primitive" belief (ch. vi), one that has played a part in the evolution of belief in a deity. This, then, is something distinct from social feeling; Dr King does not think it is in itself a religious concept (p. 163) — yet it carries with it the sense of something non-human to which reverence must be paid, and it is always embodied in some object.

Deities, Dr King rightly holds, are personalization of things useful to man, and they grow and change according to the needs of their worshipers; here again we must suppose something more than social feeling — there is the sense of Powers standing outside of human society yet in intimate relation with it. For the rest the discussion of the theistic question is admirable. I agree with the author that no sharp line is to be drawn between religion and magic; the two have gone different ways, but both are modes of gaining the help of supernatural Powers, and are employed legally so far as they are serviceable to the community. The description of the way in which ethical monotheism has arisen is in accordance with known facts. The question of the relation between religion and morals, here dealing only with the Australians, is, the author explains, only a small part of the material he has collected on the subject; it is to be hoped that he will publish this material in full. The chapter on pathological experiences as connected with religion is a dispassionate and thoughtful account of phenomena that have recently excited great interest; Dr King thinks that they may be explained as natural human experiences.

To sum up: This volume describes admirably the social conditions that have given form to religious customs and have supplied material for the full construction of supernatural personages. But, if I understand the author, he does not clearly account for the conception of the supernatural. In one place (ch. ix) his view seems to verge on a partial euhemerism; but euhemerism is discredited as a theory of the origin of gods, and in any case does not explain why men felt the need of creating gods. Perhaps Dr King has not fully expressed his views on these points, and more explicit statements may remove the objections here

made. One small oversight may be mentioned: it is said (p. 246) that "the Semitic peoples worshipped many of their kings when they were alive, *e. g.* at Babylon, in Moab and Edom"; in the Semitic area living kings were considered to be divine only in Babylonia, and there only for a limited time (about B. C. 3000-2000), and it does not appear that even there they received divine worship.

C. H. Toy.

Takelma Texts. By EDWARD SAPIR. Anthropological Publications of the University of Pennsylvania, vol. II, no. 1: 1909. 10M X 7M, pp. 263.

In this volume Dr Sapir has made available a considerable number of texts in the Takelma language which are important for the student of linguistics and folk-lore alike. It is quite clear from internal evidence that very great pains have been taken in phonetic matters, and an elaborate key is furnished (pp. 8-11). The texts themselves are divided into three classes, namely, (I) myths, of which there are twenty-four; (II) customs and personal narratives, six in number; (III) medicine formulas, numbering eleven. The last, with interlinear translations and explanations of the meanings of the charms, were published originally in the *Journal of American Folk-Lore*, vol. XX, pp. 35-40. In this connection it should be observed that interlinear translations are provided for the first five myths also. A vocabulary at the end completes the book.

Owing to the lack of published mythological material from Oregon, or the near neighborhood¹ it is impossible for the reviewer to make an extended criticism of the contents of the volume, and he must content himself with some remarks concerning the externals. Yet these should by no means be neglected as Professor Lanman has recently shown in his notes on the "Externals of Indian books."

The first point that I find fault with is that the lines of the pages are not numbered. Hence easy reference to the book will be seriously impaired. It is clearly for this reason that in the vocabulary references to the texts are apparently lacking. The next point is that interlinears are provided for in only a small portion of the texts. However, as interlinears for the third part were published previously, perhaps we should not grumble too much. It may be mentioned, however, that misprints such as Atbabascan (p. 119, footnote), are very rare.

TRUMAN MICHELSON.

¹ This was written before the appearance of Dr Dixon's *Shasta Texts*.

The First Grammar of the Language Spoken by the Bontoc Igorot, with a Vocabulary and Texts, Mythology, Folk-Lore, Historical Episodes, Songs. By DR CARL WILHELM SEIDENADEL. Chicago: The Open Court Publishing Company, 1909. 10¼ × 8½, pp. xxiv, 592, 13 plates.

This sumptuously made and beautifully printed volume is creditable alike to the author's *Sprachgefühl*, the patience of the Bontoc natives, and the generosity of the intelligent ladies and gentlemen who have made possible its publication. The language here treated, which belongs in the Malayo-Polynesian family, is "spoken by the inhabitants of the town of Bontoc, the capital of the sub-province Bontoc, situated in the narrow valley of the Rio Chico, in the mountainous interior of North Luzon," and the work "is based exclusively on the material which the author has obtained personally from the lips of several groups of Igorot, who were on exhibition in Chicago during the summer and autumn of 1906 till October 9, and in 1907 from May 28 to August 20" (p. viii). As Dr Seidenadel observes, the Bontoc Igorot vernacular is practically a virgin field, where the investigator "succeeds in gaining genuine and correct material, such as in many other Malayo-Polynesian idioms is collected from unreliable translations of the Bible, from prayer-books, manuals for priests, reports of unphilological officials, traders, missionaries and similar sources." The author is rather summary in his treatment of his predecessors who have given vocabularies of Bontoc. Thus he dismisses the Bontoc words in F. H. Sawyer's *The Inhabitants of the Philippines* (London, 1900) with the remark (p. 277), "Sawyer's list is harmlessly incorrect"; of Schadenberg's vocabulary (*Z. f. Ethnol.*, 1889) he says that it "is teeming with blunt errors"; and the section on language in Dr Jenks's *The Bontoc Igorot* (Manila, 1905) gets praise for the vocabulary, but the grammatical notes are considered "superficial" (p. xii). In view of the magnitude of Dr Seidenadel's achievement, he might, perhaps, have been more generous to those who went before him, even if their mistakes were many and their linguistic sense not so highly developed as his own.

The present work consists of three sections: Part I (pp. 1-270), "Grammar"; Part II (pp. 273-475), "Vocabulary"; Part III (pp. 479-583), "Texts." The section on grammar treats of: Phonology, the article, the ligatures, the substantive (formation, case relations, loan-words), pronouns (personal, demonstrative), possessives, reflexive and reciprocal, intensive pronoun, adjective, indefinite pronouns, interrogative pronouns, the verb (personal verbs, possessive verbs), the active, special verbal forms, the passive, expression of emphasis, reduplication,

prefixes, modifiers of verbs, auxiliaries constructed with ligature *ay*, modifying verbs, negatives, equivalents for relative sentences, interrogative sentences, indirect questions, equivalents of "to be," "to become," "to have," numerals (pp. 189-195), prepositions, compound prepositions, idiomatic prepositional phrases, adverbial expressions (place, time, quality, and manner; quantity), particles, conjunctions, interjections, etc. An appendix (pp. 268-270) deals with tribal, personal, and geographical names. The vocabulary is alphabetical (English-Igórot only) and contains several thousand words (under A, e. g., 106 English words are listed) and phrases, some of the terms (e. g., "basket") having as many as 30 synonyms. The texts, according to the author (p. 481) "the only Bontoc Igórot texts in existence," consist of stories (Lunawig, Head-hunter's Return and Ceremonies, The Igórot in the Battle of Caloocan, The Rat and the Two Brothers, The Stars, Tiliu, Kolling, The Monkey, Palpalama and Palpalaking, etc.; the songs (pp. 578-583) are, songs sung while working in the rice-fields, a love-song, a wedding-song. Both stories and songs are given in native text with interlinear translation and numerous explanatory notes.

In this monograph the author has refrained from comparative philological studies and discussion of other Malayo-Polynesian languages, considering it rather his task "to furnish material for such studies, to contribute at least a certain amount of reliable material for comparative research which ought to be based upon the results of new, uninfluenced investigations—field-work—into the various idioms spoken by the natives, and not upon religious books made by missionaries and their apprentices" (p. xi). But there is not a little danger lurking in such outright neophily on the part even of the best trained investigators, and not all missionaries can be put so completely under the ban.

Bontoc shows dialectic variations, and individual peculiarities of pronunciation are common—"great inconstancy prevails in accentuation" (p. 10). The native "is proud of his idiom, which he speaks rapidly and as negligently as he chooses at times, with a manly and sympathetic voice." On page 28 is given a brief list of loan-words, nearly all Spanish, including *Melikáno* "American". Some of these are hardly recognizable at first sight: *bábú'l*, from *vapor*, "steamship"; *talá'bya*, from *tramvia*, "tramway," etc. Among interesting features of the Bontoc language are the following: the personal article *si*; the omission of the accusatives *him*, *her*, *it*, *them*, referring to a substantive mentioned before, and of the datives of the pronouns after verbs of giving, showing, bringing, telling, if self-understood (p. 31); the limited number of primitive

adjectives, and the absence of inflection to distinguish singular or plural, or gender, although reduplication is used to express intensification of quality (p. 39); absence of negative or privative prefixes proper (p. 43); extensive use of reduplicated verbal forms, expressing repetition, intensity, continuation, duration, continued contemporaneous action, etc. (p. 107); important rôle of prefixes as modifiers (pp. 109-117); "auxiliaries" or verb-modifiers (pp. 117-134); strict uses of different negatives (pp. 138-148); absence of relative pronouns and of relative sentences proper (pp. 149-158); etc.

Of interesting words in the vocabulary these may be cited: Beautiful, *kāwī's ay i'laen*, lit. "good to see"; both, *d'min nan dji'a*, "all two"; brown, *kāg tiliin*, "like a rice-bird"; green, *kāg fā'kyu*, "like moss on stones in the river"; yellow, *fāki'ngi*, probably "the yellow blossom of a plant called *fāki'ngi*," etc. The word for bow is *bondolay*, a term borrowed from Ilocan, the bow and arrow being "scorned and never used by genuine Igórot" (p. 301). Bread-making is not practiced by the Igórot, who have borrowed their word for bread, *tind'pay*, from Malay.

Most of the stories and songs were obtained from Matyu, "a true Bontocman of high intelligence, great modesty, happy humor and good will" (p. 481), who died at Detroit in September, 1908, leaving as his sole memorial a share in the making of this book on the language of his people. *Lumatwig* is the culture-hero, figuring in the creation, deluge, and other myths of the Bontoc. The story of "The Igórot in the Battle of Caloocan" (pp. 20-36) is an interesting historical contribution to the literature of the American conquest of the Philippines. Many words and phrases of the songs belong to a "song-dialect," with "words of the old folks."

As to the etymology of the word "Igórot," Dr Seidenadel cites (p. 21) Dr T. H. Pardo de Tavera's derivation, *i-g'lot*, "mountaineer," a Tagalog term, with apparent approval.

ALEXANDER F. CHAMBERLAIN.

Mission Scientifique G. de Créqui Montfort et E. Sénéchal de La Grange. Antiquités de la Région Andine de la République Argentine et du Désert d'Atacama. Par ÉRIC BOMAN. Tome Second contenant 1 carte, 1 planche et 45 figures dans le texte. Paris: Imprimerie Nationale. Librairie H. Le Soudier, Boulevard Saint-Germain, 174. MDCCCXVIII. Pp. 389-949.

The first volume of this important monograph was reviewed in the last volume of the *American Anthropologist* (N. S., vol. 11, no. 2, for

April-June, 1909), in some detail. The second part, recently issued, treats of "The Puna and its Present Inhabitants" (Indians of Suques, Indians of the Punas of Atacama and Jujuy, the first more particularly, pp. 417-466; making of modern pottery; folk-lore of the Puna; anthropometry of Susques Indians—data concerning 30 men and women), pages 389-526; "Archeology of the Puna de Jujuy, the Desert of Atacama and the Quebrada de Humahuaca" (Cobres, region of Salinas Grandes, region of Atacamas and Omaguacas), pages 527-829; "Extra-Andine Region of the Province of Jujuy," pages 831-854; "Chemical Analysis of Pre-hispanic Metal Objects," pages 855-875. An excellent Bibliography of authors cited, numbering more than 400 titles, occupies pages 879-904; and in the extensive Index (pages 905-933, 2 cols. to the page) geographical names are indicated in capitals, names of peoples, tribes, languages, etc., in italics. A good archeological map of northwestern Argentina, on which are marked by a system of signs pre-Hispanic village-sites, pre-Hispanic ruins, Spanish (or doubtful) ruins, camps, sites where pre-Hispanic objects have been discovered, tumuli, simple graves, inhumation-burials, hut-burials, urn-burials, cave-burials, petroglyphs, petroglyph-groups, paintings in caves and rock-shelters, terrace-cultivation, pre-Hispanic mines, and old Spanish missions, completes the volume.

The sterile character of the Argentine Puna was evident in pre-Columbian times, when its inhabitants paid in lizards their tribute to the Incas. Here agriculture is reduced to its simplest expression, in the cultivation of lucerne and a little rye as forage-plants, and the growing of potatoes, *quinoa*, and beans; at Susques the only plant cultivated is the *quinoa* (p. 410). The Indians of today have as domestic animals the sheep, llama, mule, dog, and (sometimes in Jujuy) the guinea-pig, their chief dependence being upon their flocks of sheep; in the plain of Salinas Grandes there are a few cattle also. The llama has been almost entirely replaced about Salinas Grandes and in Cochino by sheep and mules, but in the north of Jujuy it still exists in considerable numbers. A few individual alpacas (imported from Bolivia) are to be found at Santa Catalina, but this animal was probably not domesticated in the Argentine Puna in pre-Hispanic times, to judge from the absence of its bones in old graves, etc. M. Boman's inquiries in Argentina, and likewise in Peru, seem to prove, contrary to the views of Von Tschudi, that the cross between the llama and the huanaco is often fertile, as is also that between the llama and alpaca. No crosses with the vicuña appear to take place (p. 413). The result of llama-huanaco crossing is called by the Indians *huarizo*, the offspring of llama and alpaca, *chajru*.

In the Puna de Atacama there live still some 2,500 Indians (all pure, "the *métis* can be counted on the fingers") of whom about 600 are in the districts of Susques and Coranzuli; in the Puna de Jujuy the Indians number some 10,000 or more. The Indians of Susques, who, among themselves speak Quechua only (all the men know also Spanish, but none of the women), and whose religious organization seems to show that their village was founded by the Catholic missionaries "around a doctrina," *more suo*, are the purest of all, and have preserved better than the other Indians of the Puna their traditions and the customs of their ancestors (p. 471). Of the Puna Indians M. Boman knows but one "who has lifted himself above his race and attained a social position which makes him envied by the *métis*" (p. 476). This is F. Gareca, of Rinconada, a pure Indian of the frontier of the Atacaman Puna, from whom the author obtained some of his data concerning the customs and beliefs of the aborigines of the Puna. Among the Indians of Susques sexual love is not very intense, but paternal, and especially maternal, love seems to be even greater than is the case with civilized peoples (p. 438). Infant mortality is very great, and (possibly due to endogamy) fecundity not at all remarkable. The complete isolation of this little tribe manifests itself in many ways. Although there has never been a school at Susques and the Indians have never left it to go to school anywhere else, some of them can write Spanish. In one case, the great-grandfather had learned writing at San Pedro de Atacama, and the art had been transmitted in the family from father to son, — of one Indian M. Boman says (p. 440), "his orthography was not inferior to that of the Argentinian *métis* who can write."

With these Indians, it is the men, not the women, who imitate European costume (p. 446). The mixture of American Indian and Spanish religiosity and superstition appears in several places, as, e. g., when the Indian Carpanchay informed M. Boman that the *apacheta*, containing a niche with a saint's picture and surmounted by a cross, was dedicated to Pachamama, as well as to the saints (p. 424). In the section on "The Folk-Lore of the Puna," the author notes "a remarkable analogy in myths, invocations and customs with the folk-lore of the valleys of Salta and Catamarca" of which some account was given in volume one. On pages 485-500 are given Quechua texts, and translations of brief invocations to Pachamama: Against fatigue in travel in the mountains, in saluting the *apacheta*, to call together scattered sheep and llamas, in wool-spinning, for marking animals (ear-cutting, etc.), for opening irrigation-canals, at maize-sowing, etc. Other items of folk-lore and mythology deal with

Coquena, the hermaphrodite master of vicuñas and huanacos, parentless offspring of earth, a night-wanderer of whom many tales are told and to whom many sacrifices are made (the Indians believe in him implicitly); the *huacas* (immense bulls, giant sheep), comparable with like Peruvian monsters, etc.; beliefs concerning pre-Hispanic ruins, etc. (the Indians do not believe they are the descendants of the *antiguos*,—these lived before the sun appeared); treatment of a person struck by the *Pujio* (a genie of water-springs); birth, marriage, and death rites and ceremonies,—the washing of the effects of the dead is said (p. 520) to be "clearly Peruvian"; the festival of Our Lady of Bethlehem, patron of Susques, celebrated after the manner of such festivals in the villages of Bolivia.

Among the Susques Indians and others of the high plateau, artificial deformation of the skull is unknown today. Excluding three individuals under 19, the stature of the Indians measured at Susques ranged from 1,519 to 1,682 mm. (average of males 20 and over and less than 60, was 1,642 mm.), the cephalic indices of all subjects ran from 73.94 to 84.05.

In the Quebrada de Cobres (older name Cabi) are some partly effaced petroglyphs resembling those of the Quebrada del Rosal (noticed at p. 348). To the account of the old mines of Cobres (pp. 536-545) are added some details concerning these *huairas* or pre-Hispanic smelting-places. The Cobres mines were worked by the Spaniards after the conquest. Whether the petroglyphs, which are also pre-Hispanic, are contemporary with the mines is not certain. As the name Salinas Grandes would suggest, that region furnished in pre-Hispanic times the salt consumed by the natives of the Jujuy and Salta regions, as is the case still to-day. From this part of the Argentine have been obtained very many large, rather rude, trachyte or granitoid stone axes, etc., some of which resemble similar implements from the prehistoric salt-mines of Hallstatt, Kulpe (Armenia), etc. At Saladillo were found chipped flints of quartzite, "perfectly Achulean and Chellean in type" (p. 567). The arrow-points of the Quebrada del Toro are without peduncle, while those from the Puna de Jujuy are in general pedunculated (see plate XLVI).

Most of the skulls from the great burial-cave of Sayate, like those from the Quebrada del Toro, Pucará de Rinconada, and Calama are artificially deformed (teeth-filing, head-flattening, etc.),—M. Boman notes that "these skulls are the first ones of pre-Hispanic date with deformed teeth, to be recorded from South America, if we except a doubtful turquoise-encrusted tooth from Peru in the Ethnological Museum of Berlin" (p. 581). Although traces of human habitations of prehistoric times are but few in the Sayate region, the *andenes* for terrace-culture, with their

walls, are still visible. Tschudi's opinion that the Peruvian *andenes* were irrigated by hand cannot apply, M. Boman thinks, to those of Sayate, where probably the rain was much more abundant in ancient times (p. 604). In the Quebrada de Rumiarcó the whole region about Casabindo, etc., is covered with ruins, burial caves, and *andenes* like those of Sayate. It is not certain whether the pre-Hispanic remains at Abrapampa (*pircas*; a quartzite stone mortar), Lumará (*pircas*, stone axes, pottery resembling that of southern Bolivia, etc.), and Cangrejillos (many badly preserved *pircas*), are Atacaman or Omaguacan. In the ruins at Queta (pre-Hispanic village, *pircas*, etc.) were found stone mortars, terra-cotta dishes many stone axes, a copper knife, copper pendants, perforated stone cylinders, discs, etc., besides a great variety of hard stone beads, evidently used for necklaces. The prehistoric village at Pucará de Rinconada furnished human remains (an entire skeleton) in but one spot. The natives had buried their dead in caves west of the ruins, each of them containing in general four or five corpses (sometimes seven or eight, never less than two). About twenty of these caves were examined. Among the objects found in the caves were bows (always broken), arrows, flat axes of the Lumará and Queta type, tools and implements of wood, *batons*, curious wooden tablets resembling the implements used by the Brazilian Mundurucus for pulverizing *parica* seeds (p. 653), pieces of pottery (not very numerous, nor remarkable in decoration or in form), metal objects (rather rare), etc. In one of the burial caves was discovered the skull of a dog, probably *C. magellanicus* (a domesticated variety of this species).

In a colored plate is reproduced the painting in a rock-shelter at Pucará de Rinconada, of which a detailed description is also given (pp. 666-674). In this fresco few symbolic figures occur, the record being probably that of some assembly, festival, return of a war-expedition, or the like. The painting is probably pre-Hispanic. The colors are red (touching Van Dyck brown), black, green, and flesh-rose. In the cave of Chacunayo are some other frescos in black, white, brown, and red. The petroglyphs of Puerta de Rinconada represent men and animals. At the laguna of Pozuelos were found three perforated stone "rings," possibly used on sticks for clubs, etc. (p. 690). In the Rinconada region were found also polished stone mortars, pestles, axes, etc. The gold deposits of Rinconada were long worked by the Indians, and probably before the advent of Europeans (a century ago the industry was in full flourish).

At pages 698-709 the author discusses the itinerary of Matienzo

(1566), one of the oldest documents concerning the Puna, and also that of Diego de Almagro, the first Spaniard to penetrate the extreme north-west of the present territory of the Argentine Republic. The description of the finds at Calama (pp. 720-756) résumés the discoveries of M. Sénéchal de La Grange — cemetery, crania, objects in wood (bows and arrows, spades, "knives," *bâtons*, combs, needles, spindles, sculptured tablets and tubes, spatulae, sculptured bells, mask), calabashes, objects in bone (tubes, etc.), stone objects (spades most common), pottery, basketry, woven material, rope, etc., remains of food in terra-cotta vessels (*charqui*, maize, *Prosopis* seeds, etc.). One of the graves at Calama contained the skull of a dog, seemingly a variety of *Canis Incae*. Mummified heads also occurred at Calama. At Chuquicamata copper was mined in pre-Hispanic times, and at Chiuchiu existed a large pre-Hispanic village.

The old graves on the shores of the cove of Chimba (part of the Bay of Antofagasta) belong to the Changos, or their ancestors (p. 766). In the Omaguacan region, are to be noted the *piras* and graves of Yavi Chico and Sasana (furnishing very interesting pottery), the ruins of the Quebrada de Humahuaca, the frescos of the cave of Chuliu (pp. 792-801 with reproduction; there are two series differing in style, dimensions, and colors, the second being post-European), the petroglyphs of Rodero, the frescos of Huachichocana, etc. (pages 808-829 are devoted to a comparison of the petroglyphs of the Diaguitan region with those of South America in general).

For the extra-Andine region of the Province of Jujuy the chief things of archeological importance are the numerous pre-Hispanic villages in the valley of San Francisco, the children's cemetery of Arroyo del Medio (the contents of several urns are described, pp. 839-844), etc. The chemical analysis by MM. Morin Frères, assayers of the Banque de France, of 26 specimens of copper objects (14 from Argentina, 4 from Porco, Bolivia, 7 from Tiahuanaco, 1 from Ecuador) is given in detail. The facts seem to indicate that in the region including Colombia, Ecuador, and the Peruvian coast the alloy of copper and tin is unknown, while in that comprising the high plateau of Peru, Bolivia, and Argentina, as well as the Diaguitan country it almost constantly occurs. The builders of Tiahuanaco were the only Ando-Peruvian people who used sulphuret of copper. The proportions of tin found in copper objects are so variable that it is reasonable to suppose that the Indians were ignorant of grading the alloy according to the use of them. The analyses (pp. 869-875) of pre-Hispanic gold and silver objects are too few to justify dogmatic con-

clusions, but here again the metallurgy of the Argentine and Bolivia differs from that of Colombia, etc.

ALEXANDER F. CHAMBERLAIN.

The Religious Practices of the Diegueño Indians. By T. T. WATERMAN. University of California Publications in American Archaeology and Ethnology, Vol. 8, No. 6. Berkeley, California: University Press, February, 1910. 10½ × 7. pp. 72. 8 plates.

This is a really important contribution on the sophiology of the Diegueño Indians of southern California, and marks a great forward step in our knowledge of Yuman religious practices and lore. The material has not only been collected and worked over with uncommon care, but is presented in a style which is readable and interesting.

The "Diegueño" are the Yuman speaking Indians of San Diego county, southern California. In earlier times they were associated with the mission of San Diego; hence the name. The Diegueño, together with the Shoshonean speaking Luisefño, Juaneño, Gabrieleño, Cahuilla, etc., who live north and east of them, are popularly known as the "Mission Indians."

As these Yumans and Shoshoneans have thus passed under a single name, so also their religion and mythology have generally been supposed to be similar. The chief conclusions of Mr Waterman's paper are that such an opinion is erroneous. The affiliations of Diegueño mythology "are to be sought, not among the mythology of the Shoshoneans as has at times been suggested, but among that of the peoples related linguistically with the Diegueño, who live to the south and east . . . The real affiliation of the Diegueño religion is like that of their mythology, probably to be sought among their kindred, the southwest peoples of Yuman stock."¹

In fact, the apparent similarity of the religious practices of the two peoples seems due to the comparatively recent spread of a definite cult which has been described by Miss C. G. DuBois as "Chungichnish worship," an important feature of which is an initiatory rite in which jimson weed is used to produce visions. Just where this cult originated is uncertain. There is some reason to think that it came from the Shoshoneans of the islands off the coast. It is significant as regards its origin that Chungichnish songs sung by the Diegueño are apparently in the Gabrieleño dialect of Shoshonean, spoken in the vicinity of the present city of Los Angeles. The best of evidence can be adduced that this cult

¹Op. disc., p. 343.

was introduced among the Diegueño by the Luiseño, that this introduction occurred among the northern Diegueño about the time of the first coming of the Spaniards and among the southern Diegueño within the memory of old men still living.

It thus becomes clear that the Chungichnish cultus falls into the same class with the ghost dance, the "mescal religion," the Shaker and Smohalla beliefs, and other systems which have suddenly broken forth and, gathering strength from older systems of thought, have swept their courses across the aboriginal peoples here in North America even in our own day and age, not to mention the myriad of cults and sects and "world religions" which have been springing up in our old world civilization from time to time ever since historical records were begun and have run or are running their courses, little or great. An important service will be rendered to the science of religion by a thorough investigation of this interesting Chungichnish cult.

Most of the Diegueño religious practices are centered about infancy, adolescence, and death. Whatever is done at these three periods is supposed to have a powerful effect on later existence. The limbs of an infant were tightly bound to the cradle so that they would be straight throughout later life. At the puberty initiation into the Chungichnish cult the heads of boys were carefully freed from lice so that they would never be troubled with these parasites any more. A singing and expirating rite was performed over a corpse so that the shadow or soul would go to the valley over in the east and stay there permanently. "Elaborate ceremonies, especially as regards the period of adolescence in boys and girls, have been built up around such beliefs."¹

Religious practices are accompanied by singing and dancing. Diegueño songs consist of a few words chanted to an air which covers a slight range. Repetition and variation by singing a portion of the song in the octave are frequent. The turtle shell rattle is mostly used. The dancing generally speaking involves little motion.

The accounts of the puberty initiation ceremonies are full and intensely interesting. The girls' adolescence ceremony differs widely from that of the boys. The latter is an initiation into the Chungichnish cult and non-Yuman in origin. In the former the songs are sung in the Diegueño language, although even here the ceremony is closely paralleled by a Luiseño one.

The most striking portion of the girls' ceremony consists of the "roasting of the girls." A large pit is dug, it is heated by building a

¹ *Op. disc.*, p. 278

fire in it, and the pit is then partly filled with green herbs of certain species. A number of girls at the age of puberty, who have previously drunk tobacco crumbled in water, lie at full length in the pit, and green sage brush is piled over them. The girls are kept in this steam bath for a week or longer. A point of general interest is the use of a crescent-shaped warming stone which is placed between the legs of the girls in this ceremony. These crescent stones have been reported found at several points from central California south and east, and their usage may thus be accounted for.

Quite a collection of the songs sung by the women of the village about the pit during this ceremony is given; the "bad songs" are of especial interest. These songs name over the recent dead of unfriendly neighboring villages. It should be noted in this connection that the mention of a dead person's name is considered both as an abomination and an affront by the central and western Yumans. Many of these Indians have no idea as to how their own grandparents were named. The accidental pronunciation of part of a dead person's name once so enraged a Yuma woman that she threw all kinds of objects at the offender.

After coming out of the pit the girls' faces were painted in varying ways during three successive moons. The girls abstained from meat and salt for half a year.

The boys' adolescence ceremony is derived directly from extra-Yuman sources. The songs, Mr Waterman believes, are sung partly in the Gabrieleno language. The dry-paintings connected with this ceremony are carefully described and reproduced, and are a great contribution to our knowledge of Southwest aboriginal ideas. They offer a chance for comparison with the other religious earth drawings which have been obtained in the Southwest area.

The curious employment of jimson weed (*Datura meteloides*) in this ceremony appears to be a recent introduction from Shoshonean territory and perhaps quite a new element in Diegueño culture. That a knowledge of the power of jimson weed for producing visions, hallucinations, and other abnormal mental conditions dates among the Diegueño only from the introduction of Chungichnish worship seems highly unlikely. The Diegueño Indians were doubtless acquainted with the properties of this plant before they ever heard of Chungichnish rites. The Cocopah, Yuma, and Mohave all use the drug. Bourke reports it among the Wallapai;¹ and Hrdlička notes that the White Mountain Apache mix its juice with

¹ John G. Bourke, *On the Border with Crook*, p. 165, 1892.

mescal liquor and thus produce a powerful intoxicant.¹ This use of jimson weed seems to be unknown to the Pueblo peoples.

The juicy, bluish leaves and conspicuous flowers and pods of this plant could hardly fail to attract the attention of Indians wherever it grows, nor could its properties remain long undiscovered. The kernel from which such religious drug-practices might grow is illustrated by the following information. A school boy of the Fort Mohave Indian School confided to me that he and some of his chums were accustomed to munch the leaves of jimson weed in order to make them "dream nice" although no one had ever taught them this use of the plant and they had never heard of ceremonial practices connected with it.

The jimson weed drinking-ceremony is indulged in by males only and is undergone but once by each individual, who becomes for all future time a member of the Chungichnish cult. Its administration usually occurs at puberty, but even old men were sometimes initiated.² Briefly, the ceremony is as follows. The persons to be initiated are first given to drink freely of jimson weed decoction. They then take part in a dance, being guided in their movements and taught by the initiates. One by one they become sick and are promptly laid away to sleep off the effects. They have visions in which an animal is often seen, and the species which appears the observer never afterward kills or injures. For a month the boys are fed only a little acorn or sage-seed mush and wear tight "hunger-belts" of tule. This period is spent in bathing, body-painting, and dance practice. At the expiration of a month the boys are loused, the belts are removed, and a foot race is held. During the ensuing month they are fed all the acorn mush they desire and are instructed in dancing during the first half of each night.

The execution of a large dry-painting by old men followed. This painting reflects a typically Yuman religious outlook. The knowledge of the paintings probably antedates the introduction of the cult but has been adopted by it.

Mr Waterman describes two varieties of this painting, both representing the world. They were obtained from old men at Santa Ysabel and Mesa Grande respectively. They differ in detail only. The dry paintings were made on the earthen floor of the house in which ceremonial objects of the village were kept, and were fifteen feet or more in diameter. The single or double line which forms the circumference of the painting, which is always circular, represents the horizon, where earth and sky

¹ A. Hrdlička, *Bull. 34, Bur. of Am. Eth.*, p. 25, 1908.

² *Op. disc.*, p. 296.

meet. Either just outside of or superimposed on this line four small circles are drawn at positions roughly intermediate between the cardinal points. These represent the great mountains of the earth, variously identified with actual mountains in the different villages. They remind one of the four mountains of the cardinal points of Pueblo mythology. Within the horizon are arranged the luminaries, the constellations, the various snakes worshipped, and the "Chungichnish animals" (coyote, wolf, bear, tarantula, and raven). The materials used were powdered soapstone (white), native graphite powdered (black), native oxide of iron powdered (red), various kinds of seed, and bits of abalone shell (for rattlesnakes' eyes). Which of these materials was used in representing each object, the manner of graphic representation, and the relative position of each, seem to have varied according to village and maker. The constellations and the snakes are very realistic; the other objects show interesting conventionalization. Among many features of these drawings which might here be discussed we note that Mountain-sheep (Orion) is represented as an L-shaped constellation as among the Colorado river tribes, and not as the straight line of Pueblo conventionalism. Morning and evening stars, so important in Pueblo religion, do not appear at all. These Yumans conceive the sun and moon to be composed of earth or spittle, and to be lifeless as are stones, while the neighboring Pueblo pray to them as thinking and wise beings. Diegueño snake worship deserves special attention.

The novices are taught concerning the dry-painting. This instruction was, according to one informant, accompanied by a spitting feat. The burying of a life-sized human effigy with a long tail made of nettle-fiber netting, a jumping feat connected with the burying, and an all-night war-dance conclude the Chungichnish initiation ceremony for boys.

The Diegueño dead are now buried in Christian fashion. Formerly they were burned. Although cremation ceremonies have been abandoned, anniversary mourning ceremonies comparable to practices of the river tribes are still in vogue. As ceremonies connected with mourning the Clothes-Burning, Feather-Dance, Whirling-Dance, Eagle-Dance, and Image-Burning are described. The last is apparently borrowed from the Luiseno.

The dead are supposed to go to a valley in the east. This valley is probably identical with the Salyaika or "Sandy Place" of the Mohave (the Chemehueve valley). It appears from Mr Waterman's information that all the Diegueño dead were believed to succeed in reaching this blissful dance-place. Among the Mohave good and evil have nothing to do with this gaining of salvation; but age, tattoo marks on the chin, knowledge of certain constellations, etc., have.

The doings of the Diegueño medicine men relative to the curing of disease closely resemble the performances of Mohave and Yuma "doctors."

As among the Yuma, east is associated with white (or rather brightness), west with black, north with red, south with blue-green. These color associations are occasionally shifted, as among the Athapascan and Pueblo peoples of the Southwest. Upper and lower directions are occasionally mentioned, as in the song quoted below, but there seems to be no color symbolism connected with them.

The ceremonial number is three or four, as is the case all over the area.

Mr Waterman has carefully read and compared the published myths from the area. He finds these accounts difficult to harmonize and inadequate for a clear interpretation of Mission or Yuman mythology as a whole. Such work as this has long been needed, and will be welcomed by all ethnologists. The gathering of still more Diegueño material is, however, urgent.

The Creation myth obtained from the old Kamiyai at Campo is practically identical with the account of origins which I obtained in various forms at Yuma, as Mr Waterman states, while "even a hasty reading of this myth makes evident its dissimilarity with the ordinary Luiseño and Mohave accounts."¹

The physical phenomenon at the base of the Tcaup or Kwiya^xomar stories is believed to be ball-lightning.

Etymologies of the names of Diegueño mythic personages deserve attention. Chaipakomat, alias Tochaipa, possibly means the same as Russell's "*Earth-Doctor*," komât being the adjectival form of amât, earth. Cf. Diegueño Yokomât, Yuma Kwikumât*, Mohave Matazil¹². The first half of the name Kwiya^xomar, Miss DuBois' Cuyahomarr, is evidently the same as Yuma Kwiýú, Mohave Kwayú, the cannibal giant. Yuma and Mohave myths about this being differ only in details and differ widely from the Diegueño accounts in which the personage figures as a god rather than as a demon. Neither Yuma nor Mohave can etymologize Kwiýú, Kwayú; xomar means son.

The orthography is well suited to Mr Waterman's purpose. The individual sounds recorded by him are here presented. The grouping is mine. Vowels: a, ē, ī; i; ō, ū; o, o, ü; ai, au, oi. Consonants: y, w; h; k, g, x; t, c, tc, c (tongue tip farther back), s, l (l surd), l, ʀ (surd), ʀ (ʀ trilled), r (as in Eng.), n; p, b, v (v bilabial), m. The

¹ Op. disc., p. 341.

following additional diphthongs and consonant groups occur in his paper: eu, iw; kw, xw, ny, tcy, xp, nyp, np, ts, rs, nts, rl, cp, xp, rk, py, ty, sp, rl, rl, rp, ptc, rt, lt, tck, rlk, rp, lk, skw, rh, ms, lk. Superior a, d, and capital c also occur. It is not stated to which of the voiced r's the sound ʀ (surd) most nearly corresponds. The orthography has the advantage of being empirical and not warped by analogies or preconceived notions as is that of many language-recorders. Thus Mr Waterman writes the word for eagle as he hears it, — icpa, expa (p. 316), aspa (p. 318). Who could tell in an unfamiliar language that such a word does not actually differ phonetically according to its position and usage?

In many Indian languages stress can be orthographically ignored, but hardly so in Yuman. Yuman languages have a very unusually strong stress accent; the loud syllables ought always to be indicated. The rhythmic occurrence of violently uttered syllables is responsible for much of the quaint beauty of these Yuman songs, the stress-accented structure of which reminds one of our own European versification. I would suggest that the song on pp. 307 and 333, for instance, be written with stress accents thus:

Menái dispá tcawái tcawí
 Menái dispá tcawái tcawí (pointing)
 Xitól kawák enyák awík amái amút
 Now dead I-begin-to-sing;
 Now dead I-begin-to-sing;
 North, south, east, west, up, down.

At many places in the Diegueño region the old religious practices have been discontinued during the last twenty-five or even fifty years and many facts concerning them have been almost forgotten or even irrevocably lost. There is a great need of immediate study of the Diegueño Indians.

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SOME NEW PUBLICATIONS

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ANTHROPOLOGIC MISCELLANEA

Cyrus Thomas.—In the death of Cyrus Thomas, June 26, 1910, in his eighty-fifth year, the Bureau of American Ethnology loses its oldest member both in age and in years of service and American anthropology its oldest pioneer and one of its most conspicuous figures.

Dr Thomas was born at Kingsport, Sullivan county, Tennessee, July 27, 1825, his father being descended from German immigrants from Schifferstadt in the Palatinate, while his mother was of Irish parentage. Until 1849 he lived in and near Kingsport, the only education which he received during this time, other than what he gave himself, being obtained at the village schools and in the academy at Jonesboro, Tennessee.

At the desire of his mother, who wished him to enter the medical profession, he studied anatomy and physiology with a physician, a graduate of Philadelphia University. Later he was transferred by his father to the county seat of an adjoining county to take charge of some business. Having no love for medicine, he privately took up the study of law and, removing to Illinois, he was soon admitted to the bar and followed the legal calling until 1865. From 1851 to 1854 he served as county clerk of Jackson county. Upon abandoning the practice of law he was given charge of the schools of De Soto, Jackson County, for some two or three years. After this time a strong religious strain in him led him into the ministry of the Evangelical Lutheran Church, but his intense independence of thought caused him to abandon the ministry a few years later, though he continued a church member to the end of his life. Long before this



Cyrus Thomas

period, however, he had developed a deep love of natural history, and in 1858 he was a principal founder of the Illinois Natural History Society, still an active organization. In 1869 his professional scientific career began with his appointment as an assistant in entomology in the United States Geological and Geographical Survey of the Territories under the late Professor Hayden, in which capacity he continued four years. In 1873 he became Professor of Natural Science in the Southern Illinois Normal University and held this chair until 1877 when he was appointed State Entomologist of Illinois and at the same time a member of the United States Entomological Commission. The commission came to an end in 1879, but he held the former position until 1882. During this period he was tendered by the United States Commissioner of Agriculture, without any solicitation on the part of himself or friends, the position of entomologist. This, however, he declined. Finally, in 1882, he was appointed to the newly established Bureau of American Ethnology where he continued for the remainder of his life, a period of twenty-eight years. He received the degree of Doctor of Philosophy from Gettysburg College. His remains were laid to rest in Frederick, Md., with those of his paternal ancestors.

Dr Thomas was twice married, his first wife being Dorothy Logan, a sister of Gen. John A. Logan. After her death he married, in 1865, Miss Viola L. Davis of Youngsville, by whom he had five daughters, and a son who died in infancy. Three of his daughters survive him.

Dr Thomas has claims to recognition in two distinct branches of science, entomology and anthropology, but he has been so long associated with archeological and ethnological investigations that few are aware of the extended entomological career which preceded. As an entomologist he was not only a part of the pioneer exploration of the new west but a powerful factor in the mitigation of the insect plague that had so long retarded the development of the border states. His studies in the sciences which finally claimed his allegiance were extensive, but those for which he will be longest remembered are his contributions to the study of the Maya hieroglyphs and his explorations among the mounds of the Ohio and Mississippi valleys. He was not a field ethnologist and never claimed to be, his contributions to the study of living races being purely literary, but his knowledge of the archeology of the Mississippi valley was intimate and extensive. His most important single contribution to the study of our American races was without doubt his service in demonstrating the truth of Powell's contention and destroying that superstition of a race of "mound builders" totally distinct from the tribes found in occupancy of the North American continent at the time of its discovery.

Dr Thomas' career was typically American, but of a kind which will scarcely find future duplication. The complete story of his life and times would throw an interesting light on the upgrowth of higher education and modern science on purely American soil. Conditions in the early half of the nineteenth century west of the Alleghany mountains were very different from what they are to-day, and what now is considered an ordinary education was then viewed as an unnecessary superfluity of knowledge. For one born among such limited ideals and opportunities to rise above them required an exceptionally strong individuality. That a scientist should develop in such surroundings is remarkable in itself, but that a scientist with such a record of positive accomplishment should arise among them bespeaks an intellectual power and an originality of mind bordering upon what we term "greatness."

Dr Thomas enjoyed almost perfect physical health except toward the very end of his life, and was possessed of tireless energy which did not falter until within a week of his death. His early years of constant warfare against intellectual indifference and opposition developed a strongly marked argumentative tendency, but those who knew him best were aware that it concealed a kindly disposition, while even his opponents could not deny that he always fought in the open and was as ready to take as to give.

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Charles Staniland Wake died at Chicago on June 21. He was born in England, at Kingston-on-Hull, March 22, 1835. He received his education at Hull College and began his writing upon anthropological subjects with his *Chapters on Man*, printed in 1862. While he remained in England, he was actively associated with the various societies dealing with man as a subject of study. He served upon the General Committee of the British Association for the Advancement of Science, and upon the Council of the Anthropological Institute of Great Britain and Ireland, and he was an active member of the Folk-Lore Society. In the early discussions at the Anthropological Institute he took frequent part in the arguments upon early social structure and primitive beliefs, which were subjects of particular and special interest to him. A series of thoughtful and important works by him appeared rather rapidly during the dozen years from 1878-1889 — *Evolution and Morality* (1878), *Origin and Significance of the Great Pyramid* (1882), *Serpent Worship and other Essays* (1888), *Development of Marriage and Kinship* (1889). These were all printed in England. Removing to the United States Mr Wake located in Chicago. He was interested in the Congress of Anthropology held in connection with the World's Columbian Exposition and was the editor of its *Memoirs*. In 1895 he was added to the staff of the Department of Anthropology of the Field-Columbian Museum (now the Field Museum of Natural History) which he served in the capacity of a recorder to the time of his death. During the last twenty years he had published little. He was an associate editor of *The American Antiquarian* to which he made occasional contributions. He was a careful reader and was an admirable compiler and organizer of notes from reading. He has done much work of that kind for others to use, both inside and outside of the museum. For many years he was interested in working out diagrammatic representations of the principles operative in nature and man, and in 1907 he printed *Vortex Philosophy or the Geometry of Science*. Mr Wake was interested in psychic studies and was an honorary, corresponding, or active member in various ethical, theosophical, and psychical research

societies. A man of unusually retiring and unassuming character, he rarely figured conspicuously in public, but he was well known and greatly esteemed and respected by a large circle of neighbors and friends.

F. S.

On the Etymology of Guayabe.—The delicious paper-bread of the Pueblo Indians has been described by many authors.¹ The product is known to the Spanish-speaking population of the Southwest as guayabe, also written guallabe,² guayaba, guallaba, guayave, guallave, guayava, guallava, guayave,³ bueyabe,⁴ bueyague,⁴ etc., pronounced wayáve.

The writer believes that he is the first to point out the origin and etymology of this word. It comes from the Tewa language. At all the Rio Grande Tewa villages paper-bread is known as mbuwayave, mbuwa meaning bread of any kind and yave signifying 'to be stripped off,' 'to be skinned,' 'to peel off or up.' Thus mbuwayave means 'the bread that is stripped off,' referring to the thin layers which are separated from the hot guayabe stone. The Jemez call the food wu⁵ belá, 'real bread,' while belá refers to "American bread." At none of the non-Tewa villages have native names for paper-bread been discovered which have a sound similar to "guayabe."

J. P. HARRINGTON.

"Butterfly" in Southwestern Languages.—Although the butterfly is not known to figure prominently in the mythology of any tribe of the southwestern United States the designations of this animal are here curious and interesting. To the Utes of the Moguache band the butterfly is known as either ná'nasíts', plu. ná'nasítsiu, or parí'jainá'nasíts', plu. parí'jainá'nasítsiu. The informants could not explain the etymology of the former word; the latter signifies 'elk butterfly,' parí', plu. parí'jau, meaning 'elk.' It is explained that butterflies are born from the nostrils of the elk, which are of butterfly shape. In the Ute words above, italicized letters represent unvoiced sounds.

The Jemez Pueblo Indians call the butterfly wá'hábé''lá, plu. wá'hábé''láš, literally 'frayed cloud,' from wá'há, 'cumulus cloud,' and bé''lá, 'frayed, ruffled, tangled, unkempt.' Ts'ö'bé''lá, Unkempt-Hair, is the nickname of a boy at Jemez. In Jemez mythology Coyote (já⁶) is occasionally called já''bé''lá, Coyote Tangle-hair.

¹ Notably by Frank H. Cushing, *Zufi Breadstuff*, *The Millstone*, 1884, pp. 175-6 and 197-9.

² A spelling very current in New Mexico.

³ Cushing, *op. cit.*, p. 93.

⁴ These orthographies are probably influenced by words beginning with bu such as buey, bull, pronounced by the Indians wéye, wáye.

In the Tewa language, dialect of San Ildefonso, the butterfly is called *polamimi*, plu. the same. This word is remarkable inasmuch as *it is the only Tewa word so far discovered which contains the sound of l*. In this word the *l* is clearly pronounced as in Mexican.

The Mohave call the butterfly *hò"mana'p**, plu. the same, a word which they cannot analyze into simpler elements.

The words given above are all generic; the several species of butterfly may be distinguished only by adding descriptive terms. The Mohave word quoted is applied also to moths; in the other languages distinct words are in use to designate moths.

J. P. HARRINGTON.

Studies of the late Washington Matthews.—Statements having come to the writer that the philological work of the late Dr Washington Matthews, U. S. A., among the Navaho Indians could not have been accurate because of his deafness, she begs to say that most of Doctor Matthews' investigations among the Navaho were made previous to 1894, he having devoted six years of study to these Indians prior to this date, using his private funds in the prosecution of his work. The doctor was not afflicted with deafness before 1892 and even at this time his trouble was so slight that he was fully able to attend to his professional duties, having no difficulty in counting heart-beats without the aid of an instrument. Doctor Matthews was retired in 1895, not because of deafness but on account of disease of the spinal nerves, when his field studies ceased.

It is well known among anthropologists at least, that Doctor Matthews was a scholar of the highest attainments, his knowledge of medicine, biology, and botany adding much to his force as a student of ethnology. He was most clever with his brush, and his sketches of Indian life are charming. His careful, painstaking, honest work, must ever stand as a beacon to students of ethnology to lead them on over the path followed by this noble, high-minded, modest scholar.

MATILDA COXE STEVENSON.

The Journal of Race Development.—The first number of this new quarterly has just made its appearance. It is published by Clark University under the editorship of Dr George H. Blakeslee and President G. Stanley Hall. Contributing Editors are: Professor David P. Barrows, University of California; Professor Franz Boas, Columbia University; Professor William I. Chamberlain, Rutgers College; Dr William Curtis Farabee, Harvard University; President A. F. Griffiths, Oahu College, Honolulu; Dr Frank H. Hankins, Clark University; Professor J. W.

Jenks, Cornell University; Dr George Heber Jones, Seoul, Korea; Professor George Trumbull Ladd, Yale University; Dr Payson J. Treat, Stanford University; and Professor Frederick W. Williams, Yale University. The publisher is Dr Louis N. Wilson, of Clark University. In a short introductory paper (pp. 1-4) Dr Blakeslee says:

The *Journal of Race Development* offers itself as a forum for the discussion of the problems which relate to the progress of races and states generally considered backward in their standards of civilization. It is not the organ of any particular school of thought; it does not even hold itself responsible for all of the statements of its contributors but it aims to present, by the pen of men who can write with authority, the important facts which bear upon race progress, and the different theories as to the methods by which developed peoples may most effectually aid the progress of the undeveloped. It seeks to discover, not how weaker races may best be exploited, but how they may best be helped by the stronger.

The rest of the number is made up as follows: The Point of View Toward Primitive Races, by President G. Stanley Hall, Clark University (pp. 5-11); Recent Administrative Changes in China, by Dr F. W. Williams, Professor of Modern Oriental History, Yale University (pp. 12-17); Some Aspects of Reform in Korea, by Dr George Heber Jones, Seoul, Korea (pp. 18-35); Civil Service in the Philippine Islands, by William S. Washburn, Ph.D., United States Civil Service Commissioner, recently Director of the Philippine Civil Service (pp. 36-57); Our Philippine Policies and their Results, by the Hon. W. Morgan Shuster, recently Secretary of Public Instruction for the Philippine Islands (pp. 58-74); The Philippines and Recent Tariff Legislation, by Congressman Charles G. Washburn, Worcester, Mass. (pp. 75-85); The Present Situation in India, by Dr John P. Jones, Madura, India (pp. 86-109); Educational Problems in India, by Professor William I. Chamberlain, Ph.D., of Rutgers College, recently President of Voorhees College, Vellore, India (pp. 110-121); Notes and Reviews.

THE staff of the Bureau of American Ethnology of the Smithsonian Institution has recently been increased by the addition of two ethnologists who have come to their work with the prestige of high university distinction. The first of these, Dr Truman Michelson, studied comparative philology at Harvard and then continued his studies abroad at the universities in Leipsic and Bonn. He then taught comparative philology at the University of Missouri, Columbia, Mo., and more recently has been a student under Professor Boas at Columbia University in New York City. He has published various papers in his specialty and has in press a revision of Jones' Grammar of the Fox Language. Doctor Michelson is undertaking during the summer and autumn to determine the linguistic interrelation-

ship of the greater groups of the Algonquian languages. For this purpose he is visiting the Blackfeet reservation and the Northern Cheyenne reservation in Montana, then the Windriver reservation in Wyoming, the Menomoni reservation in Wisconsin, and the Micmac reservations in Quebec and New Brunswick.

The second of these new appointees is Mr Paul Radin, who has prosecuted advanced studies in anthropology at the universities in Berlin and Munich, and during the last four years has been a student under Boas and Farrand at Columbia University in New York City, from which institution he is soon to receive his doctorate. Mr Radin has taught at the College of the City of New York, but has decided to relinquish teaching in order to follow ethnological studies as a life-work and to him the bureau has assigned special investigations among the Winnebago Indians of Nebraska. Mr Radin is the author of numerous papers which have appeared in the *Zeitschrift für Ethnologie*, the *Journal of American Folk-lore*, and the *Proceedings of the Royal Anthropological Institute of Great Britain and Ireland*.

READERS of the *American Anthropologist* who are familiar with Dr C. Hart Merriam's articles on the California Indians will be interested to learn that he has resigned as Chief of the Bureau of Biological Survey, with which he has been connected for twenty-five years, and that through the liberality of Mrs E. H. Harriman it has been made possible for him to devote the remainder of his life to independent scientific work. While this will no doubt be chiefly along biologic lines, especially in the field of American mammalogy, our readers will hope that Doctor Merriam will find opportunity to continue his studies of Indian lore and especially to give to the world the results of his long study of Indian baskets, of which he has an unrivalled collection. Mr H. W. Henshaw, formerly Assistant Chief of the Bureau of Ethnology and one time editor of *The American Anthropologist*, has succeeded Doctor Merriam as Chief of the Biological Survey.

THE valuable collections of native African art made by Mr E. Torday in the southern Belgian Congo are now being classified and arranged by the authorities of the British Museum. The most remarkable specimens in the collection are the wooden portrait statues of past rulers, which throw a new light on savage art in Africa. Next in importance are a splendid carved throne of the paramount chiefs, wooden caskets and cups, and specimens of remarkable textiles resembling velvet, made from the fiber of the upper skin of the palm leaf (*raphia*). The collection was made before the almost complete disappearance of native art work due to the importation of cheap European productions.

IN a communication to the editors Dr P. E. Goddard says: "The latter part of your note [in the *American Anthropologist* for Jan.-March] (p. 138) concerning Dr Edgar L. Hewett's lecture at Boulder, Colorado, gives a wrong impression. Dr H. J. Spinden worked out the sequence of the art found at Copan from photographs and reproductions, and incorporated his results in a thesis deposited in Harvard Library, June 29, 1909. These conclusions, which correspond exactly with the dates upon the objects studied and now known in a general way to many, are undoubtedly those to which reference is made by Dr Hewett. This may seem unimportant but nevertheless deserves correction."

DR ROBERT FLETCHER of the surgeon general's library in the Department of War, Washington, D. C., has received the honorary gold medal of the year from the Royal College of Surgeons, London. Dr Fletcher is noted for his work in anthropology as well as for his accomplishments in the field of medicine; he is an active member of the Anthropological Society of Washington and one of its past presidents.

THROUGH the generosity of Mr Anson W. Hard, the American Museum of Natural History has secured an extensive series of old and valuable serapes and other blankets made by the Saltillo and other Indian tribes of Mexico and several of the tribes of the southwest.

AMONG the British birthday honors was the appointment of Mr J. H. Marshall, Director General of Archeology in India, and Dr M. Aurel Stein, Superintendent of the Archeological Survey, as Commanders of the Indian Empire (C. I. E.).

INSTRUCTION in anthropology will enter into the elective course in tropical medicine to be offered at the University of Pennsylvania at the opening of the coming fall session.

IT is announced that Herr Frick, who has been engaged in anthropological exploration in South America, has been murdered by Indians in southern Bolivia.

ON May 31, Mr C. J. Holmes gave the first of two lectures at the Royal Institution on "Heredity in Tudor and Stuart Portraits."

DR PAUL MANTEGAZZA, the eminent Italian anthropologist, died on August 28, at the age of seventy-nine years.

DR J. W. FEWKES just returned to Washington from an exploration of Pueblo ruins in northern Arizona.

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THE ORIGIN OF IROQUOIS SILVERSMITHING

By ARTHUR C. PARKER

DURING the middle of the eighteenth century there was a distinct change in the character of Iroquois personal ornaments. Then for the first time records mention silver articles such as buckles, crosses, crowns or bands, bracelets, and earrings, but no detailed description of the exact character and patterns of these objects has been left us. Previous to 1700 the metallic ornaments of European origin of the Iroquois had been principally of pewter, iron, brass, and sometimes copper. At the beginning of the eighteenth century silver ornaments were introduced and by the time of the French and Indian war they had become fairly common. At this time Indian favors could not be purchased with trinkets of brass, and the French and English, each eager for trade and prestige, began to shower silver ornaments upon the eastern aborigines until their shirts are sometimes described as being so thickly covered with them that they looked like armor. Some families are said to have had a bushel of brooches.

Specimens of Iroquois silverwork have for twenty years or more attracted the attention of collectors of Indian relics. Few articles, unless we except the historic wampum belts, have been more eagerly sought for. Up to about 1865 these silver articles were fairly abundant, native silversmiths supplying the demand where the old trade ornaments could no longer be had.

Perhaps the first specimens of native made Iroquois silver ornaments obtained for any museum were those collected by Lewis H. Morgan for the New York State Cabinet (Museum). Unfortunately,

however, the Morgan specimens are not now accessible and have not been seen in the State Museum collections for many years. Mrs Harriet Maxwell Converse in 1897 collected and donated to the Museum a series of Iroquois silver brooches, beads, head-bands, bracelets, and earrings, and described them in the 54th Annual Report of the State Museum. The Converse collection of silver articles was the first exhibited in the State Museum ethnological collections since the Morgan collection, and Mrs Converse's description is one of the first detailed accounts known to the writer. Earlier notices, which are numerous, mention the articles by name only. Later Dr W. M. Beauchamp prepared a monograph on the "Metallic Ornaments of the New York Indians," published as *Bulletin* 73 of the State Museum, this being the most extended and detailed account of the objects themselves so far published. The next account of the subject came from the pen of Mr M. Raymond Harrington under the title "Iroquois Silverwork," published in vol. I of the *Anthropological Papers of the American Museum of Natural History*. Mr Harrington's paper is by far the most satisfactory so far in print since it describes, not only the various classes of ornaments, but gives an account of the tools used by the Iroquois in the manufacture of silverwork and also describes the method. In this respect his article was the pioneer of its kind.

The first set of Iroquois silverworkers' tools collected for a museum was seemingly that obtained by Mrs Converse for the Richmond collection in the museum of the Montgomery County (N. Y.) Historical Society. Mr Harrington secured two outfits in Canada.

During the autumn of 1907 the writer was informed by a number of Indians from the Allegany Reservation that there was a silver-smith's outfit of tools in the possession of Silversmith George, an old Seneca Indian living near Tunesassa on the Allegany river. Knowing the extreme rarity of such tool kits, an immediate effort was made to secure it. Smith George was visited and the outfit purchased for a few dollars. It was incomplete, but at the time the State Museum had not a single Indian silverworker's tool. As much information was obtained as could be imparted by Mr George, whose deceased brother had been the real skilled worker. During

the summer of 1908 another outfit was located on the Cattaraugus Reservation. It was in the possession of Mrs Nancy Mohawk and was purchased through the good offices of Chief Delos Big Kittle, known to his fellow tribesmen as Chief Soinowa. This outfit was complete except for the brass patterns which had been loaned to a son-in-law. It was promised that they would be restored for a few dollars more and added to the outfit already in hand, but they could not be found when sent for.



FIG. 34.—A Seneca silversmith at his work table. In *A* the silversmith is cutting out a star brooch, and in *B* he is melting a lump of silver by blowpiping a candle flame upon it as it lies in a hollow in a wooden block.

The outfit as it stood (see fig. 34) consisted of an old stained pine table with a drawer which had been partitioned off to contain the various tools which consisted of more than a hundred chisels, several homemade saws fashioned from case knives, a blowpipe, a candlestick, hammers, pincers, a small table vise, punches, dies, awls, gravers, files, etc., and several boxes of silver cuttings, chips, brooches in process, earrings in process, glass in various stages of the shaping process for mounts, etc. A small partition contained several flint drills and a flint graver, also eight pieces of flat deer bone in process of manufacture into gaming buttons.

As in the case of the outfit procured the previous year, as many data as the Indian owners could furnish, prompted by vigorous questioning, were secured. Questions which might suggest answers were not asked in any instance, this being a better method to employ when interrogating Indians unaccustomed to analytical studies, and who many times will acquiesce in a suggested reply.

Several photographs were taken showing the uses of the various tools. Experiments were conducted in die stamping, graving, and melting silver by blowpiping a candle flame upon the metal held in the hollow in a piece of hard wood. The silver melted, fused, and with the withdrawal of the flame hardened into a small button.

Most writers on the subject have had little to say regarding the origin of the art of silversmithing among the Iroquois and other tribes that used similar ornaments. This is especially true of the class of articles known as brooches. Mrs Converse says that she failed to find in illustrations of jewelry ornamentation of the French, English, or Dutch designs that have been actually followed in the hammered coin brooch of the Iroquois. "I credit him with entire originality," she adds. This is true perhaps as far as concerns the chasing of the brooch. Dr Beauchamp thought the brooch apparently an evolution of the gorget and says that it is difficult to surmise how the buckle-tongue fastening originated, or, if borrowed, whence it came. Mr Harrington notes that the heart and crown brooch looks suspiciously European.

That an art of this character should spring suddenly into existence seems improbable, and especially since the Iroquois had nothing resembling the brooch prior to the colonial period. The writer therefore sought to find what the early trade ornaments of silver had been and to trace if possible any connection between the designs of such and the ornaments made by the Iroquois. A little research led the writer to take the stand that the idea of making silver ornaments such as brooches and earrings of the class under discussion had its origin in Europe and not in America. An examination of the archeological investigations in England, and especially in Yorkshire, revealed the fact that the builders of the burial cairns in Britain used the circular brooch with a tongue fastener, in all essential respects similar to the earliest type of brooches used by the Iroquois and other eastern Indians. This led to further investigations which re-

sulted in the discovery that the "Iroquois brooch" was in reality of Scotch or at least of British origin, and that brooches of silver, many types of which are similar to Indian-made varieties, were known in Scotland as "Luckenbooth brooches."

Dr Joseph Anderson, Curator of the National Museum of Antiquities in Edinburgh, in reply to the writer's inquiries, said, "I think that nearly all of these [brooches] figured in the plates of the pamphlet you kindly sent me are imitations and adaptations of Scotch Luckenbooth brooches, so called because they were chiefly

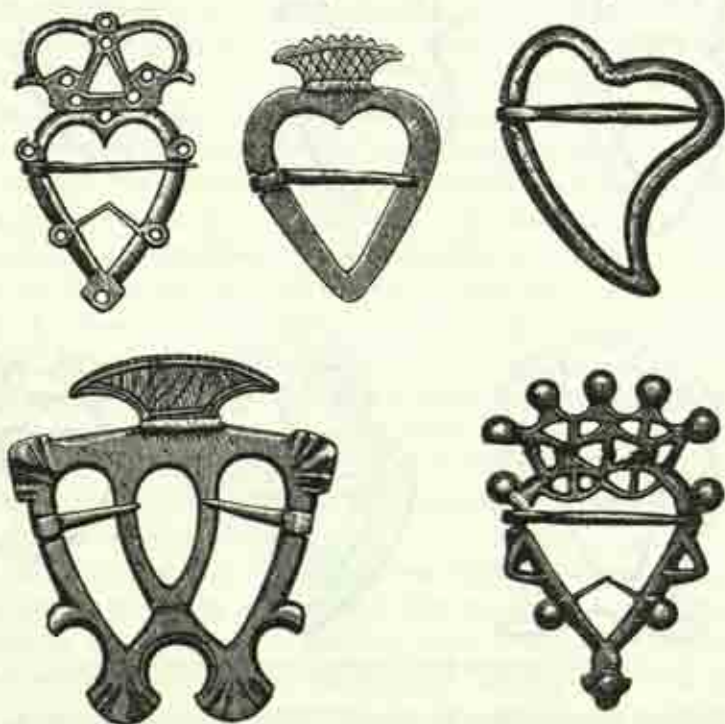


FIG. 35.—Scotch Luckenbooth brooches, heart motif (actual size).

sold in the Luckenbooths around about St Giles Church, Edinburgh. This applies to all those modeled on the design of a single or double heart, crowned, and also to the simpler forms of the heart alone. The Masonic badges seem also to have been imitated, but they need not necessarily have been Scottish." Dr Anderson enclosed with this letter a few leaves torn from the *Proceedings of the Society of Antiquaries of Scotland*, Feb. 12, 1900, pp. 220-222, which have illus-

trations of Scotch Luckenbooth brooches. For comparison these illustrations are reproduced in figs. 35 and 36. To a second letter of inquiry Dr Anderson replied: "The earliest period for the manufacture of the heart-shaped and other shapes of the Luckenbooth brooches is a matter of inference and may be 17th rather than 18th century. . . . They were worn by women and children in the fastening of a bodice or collar. . . . There are no distinctive names given to

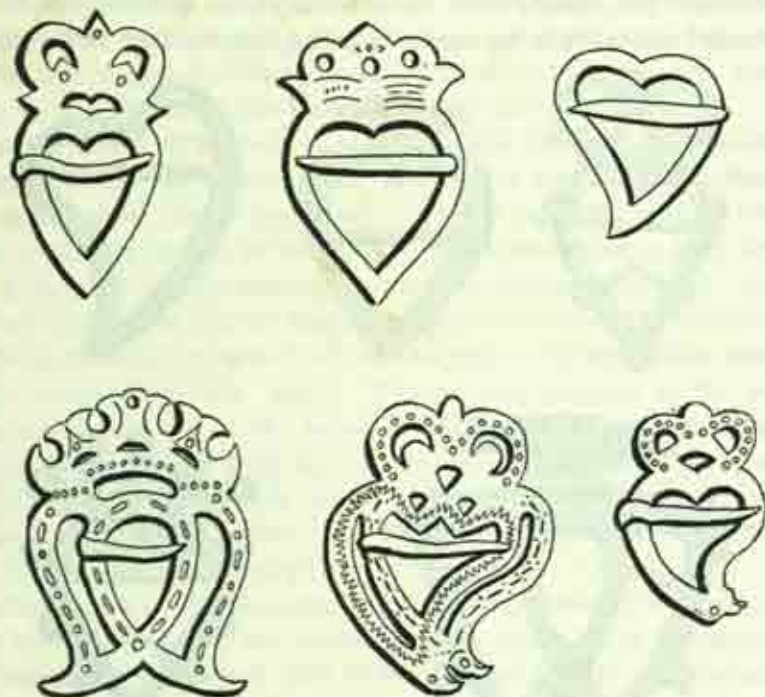


FIG. 36.—Iroquois silver brooches, heart motif (actual size).

the various types of these brooches. They were mostly used as luck tokens, or betrothal gifts, and the choice of the heart shape or the crowned heart or the double heart for these purposes is sufficiently obvious. Moreover they frequently bear inscriptions, initials, or posies; for instance on one in the museum is the inscription 'Wrong not the — whose joy thou art,' the blank for the word heart being supplied by the form of the brooch itself. There are no sets of tools, dies, or punches for making brooches in the museum. I never heard or saw any such."

It seems conclusive, therefore, that the Iroquois brooch and other silver ornaments that became popular during the early colonial period are of European origin, specifically perhaps Scotch. We say *perhaps* for lack of definite information as to the possible use of brooches elsewhere except in Great Britain. Archeology forbids the presumption that Europeans copied brooches from the Indians and sent them back as trade articles.

White jewelers in the United States and Canada for more than a hundred years have made brooches, hat-bands, earrings, and arm-bands to sell to the Indians. These jewelers also made brass patterns which were sold or traded. Some of these were made in Montreal and others in Albany. The Frederick Mix firm of Albany only recently sold their old dies and patterns to a junk dealer by whom they were destroyed before the writer could procure them.

Some of the die-cut brass patterns are still to be found, but no complete set has ever been collected. In using them the pattern was laid on a sheet of beaten silver, the design traced on with an awl, and the pattern cut out with suitable chisels and gouges of steel. The art is now almost obsolete, few silver articles having been made during the last twenty years.

The writer first called attention to some of these facts in the 5th Report of the Director of the N. Y. State Museum, 1909, and also in an address before the Wyoming Historical and Geological Society, Wilkes-Barre, in describing a fine example of Scotch brooch in the collections of that society.

The chief reason why the European origin of Iroquois brooches was not suspected by collectors is that no detailed description or picture of the trade brooch was ever made. When it was thought worth while to collect them the Iroquois had forgotten their European origin and steadfastly asserted that they had always made them, even though they might for the sake of convenience get white jewellers to cut their patterns or even stamp out blank brooches which they afterward chased in their own fashion. The Seneca even have several legends about brooches, one of which tells of a great silver mine in the Alleghanies and another that the shining ornaments are the scales of an under-water fish-man who loved a maiden and lured her to his lake each day by a gift of a scale until they became a charm that drew her into the water and to her lover.

When inquiries were made by ethnologists none thought to seek out the white jewellers who had had a hand in the manufacture of brooches and other Indian silver trinkets because he could not find the jeweller or thought little about the matter. The British

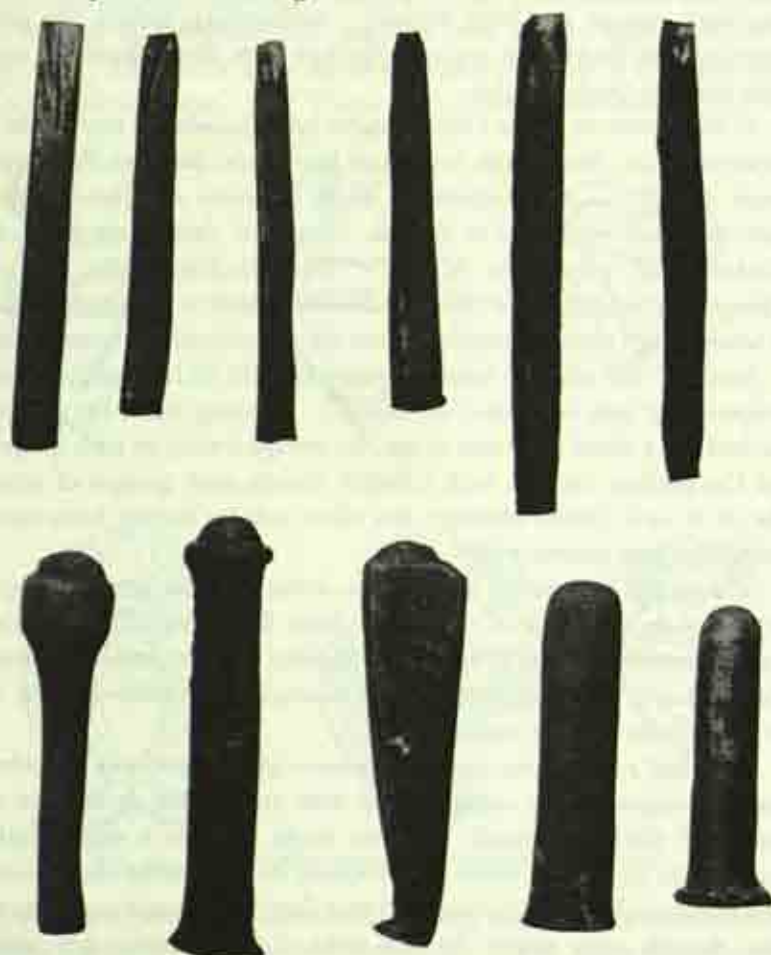


FIG. 37.—Tools used by Iroquois silversmiths. There are about 150 chisels, awls, gravers, punches, and other tools in the kit from which these are selected (New York State Museum collection).

traders had ceased to trade their silver ornaments and their true origin was not suspected. The Indians wore them, made them, and had tools (see fig. 37) and smiths for their manufacture. The natural conclusion was that Iroquois silverwork was of native origin.

The principal difference between the Iroquois brooch and its Scottish prototype is that the Iroquois decorated theirs on one flat surface with dots and dashes, wavy lines, sun, moon, and star symbols, life and "seed" signs, and cut animal-head profiles in projecting points or tips of some of the heart and crown forms. They even sought to interpret the symbolism of the European designs. The heart and crown brooch, "Queen Mary's heart," was called "the owl" and was worn as a charm at night. The masonic emblem was conventionalized again and again until the original motif is hardly to be distinguished. In its various stages of conventionalization it was given various names, such as "sky and pillars" and "council fire." Some collectors, however, have been unable to discover any symbolism, and attribute any interpretation to the imagination of the collector. As a matter of fact the Iroquois do have certain symbols on their brooches, and some of these have been interpreted by one or two old Indians for the writer who has every reason to believe his information authentic.

In brooches of Scottish origin the decoration of the form is by embossing, deep ridging, and beveling. Scotch brooches seem thicker and consequently more solid, when contrasted with the rather thin and flat brooches of the Iroquois. Scotch brooches are sometimes decorated on both sides and have inscriptions in Roman text on them. There may be other differences in Scotch brooches, but the writer has not seen enough of them to justify further conclusions.

Dr Anderson thinks the Scottish brooch originated in the 17th century, but a cursory examination of *Forty Years' Researches in British and Saxon Burial Mounds of East Yorkshire*, by J. R. Mortimer (London, 1905), will show that the circular brooch of bronze and silver dates back to the time of savagery, and they were probably never obsolete at any period in the history of Great Britain. Their use and manufacture by the Indians of America furnishes a splendid illustration of the postulate that similar artifacts were made by or were capable of delighting any people of a similar cultural stage.

NEW YORK STATE MUSEUM,
ALBANY, N. Y.

THE NEGRITO AND ALLIED TYPES IN THE PHILIPPINES

By DAVID P. BARROWS

NINE years of residence and travel in the Philippines have produced the conviction that in discussions of the ethnology of Malaysia, and particularly of the Philippines, the Negrito element has been slighted. Much has been made of the "Indonesian" theory and far too much of pre-Spanish Chinese influence, but the result to the physical types found in the Philippines of the constant absorption of the Negrito race into the Malayan and the wide prevalence of Negrito blood in all classes of islanders has been generally overlooked.

The object of this paper is to present some physical measurements of the Negrito and then of several other pagan peoples of the islands whose types, as determined by measurement and observation, reveal the presence of Negrito blood.

The physical measurements here given were taken by me at various times between 1901 and 1909. They were taken according to the methods of Topinard (*Éléments d'Anthropologie Générale*) and are discussed in accordance with his system of nomenclature.

The first Negritos measured are members of a little community on the south slope of Mount Mariveles in the province of Bataan. They are of a markedly pure type. While it is usual to find Negrito communities considerably affected by Malayan blood, in this case I doubt if there is more than a single individual who is not of pure Negrito race. Nine men and ten women, all adults, practically the entire grown population of this group, were measured. Although this is a small number, the surprising uniformity of characteristics in all practically assures us that in these individuals we have the normal, pure type of Negrito, which may be used as a standard for comparison with other peoples.

The stature of these nine men and ten women arranged serially appears below:

MEN	WOMEN
1374	1266
1381	1292
1435	1305
1439	1326
1440 = mean	1341
1467	1375
1495	1385
1526	1396
1532	1400
	1460

These figures give an extreme variation of 158 mm. for the men and 194 mm. for the women. The mean stature for men is 1440, the average 1454, and for the women 1341-1375 and 1354 respectively. These, it scarcely need be said, are extremely low statures, perhaps as low as have ever been recorded on any group of people. According to Topinard's nomenclature they are all distinctly "pigmy."

In every individual the extreme reach of the arms ("*grande envergure*") exceeded the stature. In the men the excess varied from 30 mm. to 139 mm., and in the women from 23 mm. to 102 mm. This measurement shows the Negritos to have unusually long arms. In yellow races the arm-reach is about equal to the stature, and in the white race it is usually a little above. I think we may take this excessive reach of arms to be a truly Negrito character.

The cephalic and nasal indices for both men and women are next given:

<i>Cephalic Index</i>		<i>Nasal Index</i>	
MEN	WOMEN ¹	MEN	WOMEN
80	78	84	79
80	79	90	86
80	81	90	90
80	81	91	92
82	82	95	92
82	87	97	92
82	93	98	97
87		98	98
88		100	98
			109

¹ Obtained for seven women only.

Topinard's nomenclature for cephalic index is as follows:

Long heads (dolichocephalic)	74 and below
Medium heads (mesaticephalic)	75 to 79
Broad or round heads (brachycephalic)	80 to 90

Thus with two exceptions our Negritos are decidedly round headed or brachycephalic. The exceptions are two women (indices 78 and 79), who in other respects are typical. The first had the lowest stature recorded (1266 mm.) and her arm-reach exceeded her stature by 57 mm. Her nose was very broad and flat (index 98), hair kinky, color and other characters those of the pure Negrito. The second woman was without obvious indication of mixed blood, but her nasal index was only 79 or mesorhinian, and this even more than her head form would suggest the probability of some Malay blood. I think we must conclude, then, that the head form of the Negrito, while usually decidedly round, has considerable variation and approaches mesaticephaly.

Topinard's nomenclature for nasal index is, for the living:

Broad and flat noses (platyrhinian)	108 to 87.9
Medium noses (mesorhinian)	81.4 to 69.3
Thin, high noses (leptorhinian)	69.4 to 63

Those familiar with Topinard's monumental work will recall the particular importance he gives to the nasal index, and how he shows that it is perhaps the most exact character for classifying races; all white races being leptorhinian, the yellow mesorhinian, and the black or negro races platyrhinian. Indeed the presence of a markedly platyrhinian type of nose may almost be taken as clear proof of negro derivation. The nasal index of Negritos, as would be expected in a race whose outward characters are so obviously negroid, is exceptionally high or platyrhinian. Again the figures for men and women are arranged serially so as to show the mean and variation.

<i>Nasal Index</i>	
MEN	WOMEN
84	79
90	86
90	90
91	92

95	92
97	92
97	97
98	98
100	98
	109

All of these nasal indices, with the sole exception of the woman mentioned above, are below mesorhinian or pronouncedly platyrhinian and negroid.

The shape of the Negrito nose is peculiar and after it has once been carefully observed can be easily recognized. The root is deeply depressed from a smooth and rounding forehead, the bridge is short and low, and the end rounding and bulbous. Sometimes, but not usually, the nostrils are horizontally visible. The apertures of the nostrils are very flat and their direction almost parallel with the plane of the face.

It has been repeatedly asserted that the body color of the Negrito is black, but this is a gross exaggeration. It is a dark brown, several shades darker than the Malay, with a yellowish or saffron "undertone" showing on the less exposed parts of the body. As compared with the lighter colored peoples about him his color is pronounced enough to warrant the appellation of negro which is applied to him, but this term must not be considered as other than a popular description.

The hair of the Negrito is typically African. It is kinky and grows in the little clusters or "peppercorn" bunches peculiar to negro races. The Negrito man and woman usually wear the hair short, cutting it more or less closely so that it resembles a thick pad over the head. Sometimes a tonsure on the back is cut away, and among still other Negritos a considerable part of the hair is removed from the head. In persons of mixed Negrito-Malayan blood the hair, if left uncut, grows into a great wavy or frizzly mop standing up well from the head.

The Negrito is seldom prognathous, nor is the lower part of his face excessively developed. His profile and features on the whole are comely and pleasing, especially in the pure type, which is less "scrawny" than in mixed individuals. The body, too, is shapely

and the proportions good, except that the head appears a little large, the legs too short, and the arms, as above noted, excessively long.

The muscular development is slender rather than stocky, seldom obese, legs a little thin and deficient in the calf.

The Negrito eye is distinctly pretty. It is dark brown and well opened. It has no suggestion of doubled lid and in all these respects differs from the eye of the Malayan.

The lips are full, the chin slightly retreating, the ear well shaped and "attached."

Such are, I believe, the normal characters of the Negrito of the Philippines. He is a scattered survivor of the pygmy negro race, at one time undoubtedly far more important and numerous; brachycephalic, platyrhinian, woolly headed, and, when unaffected by the higher culture of the surrounding peoples, a pure forest-dwelling savage.

The only other undisputed members of the Negrito race, besides those found in the Philippines, are the Andaman islanders and the Semang of the Malay peninsula. De Quatrefages' diligent and hopeful search through the literature of Malaysia for traces of the Negrito led him to the belief in their existence in a good many other places from Sumatra to Formosa, but Meyer in a subsequent essay assailed De Quatrefages' evidence except for the three areas mentioned above. If by Negrito we mean compact, independent communities of relatively pure type, I think we must agree with Meyer, but if on the other hand we mean by the presence of the Negrito the occurrence of his typical characters in numerous individuals of reputed Malayan race, then we must, I think, admit the presence of the Negrito in a great proportion of the peoples and localities of Malaysia. And in this sense there is much evidence that the Negrito still exists from the Andamans to Formosa and even to Japan, absorbed in the stronger populations that have overrun these regions.

Meyer's *Distribution of the Negritos in the Philippines and Elsewhere* is a very valuable sifting of the evidence, but it is not final, as was quickly apparent eight years ago when we came to locate Negritos on the ground. There are none for instance in Cebu,

where Meyer was led to place them, and it is certain that they live in Guimaras and on Palawan. Those of the last island are a very curious people, locally called "Batak." They were first described in a brief note with photographs by Lieutenant E. Y. Miller published by the Philippine Ethnological Survey in volume II of its Publications. Doubt has been cast on the Negrito character of these people, some supposing them to be predominantly Malayan, but there is no doubt about their being Negrito, although in places they have perhaps received Malayan blood.

In June, 1909, I measured a few Batak who had a small settlement called Laksun near the village of Bintuan, thirty miles up the coast from Puerto Princesa. The individuals of this group were typical Negritos, in color, character of hair, and general appearance. Four men who were measured were 1433, 1475, 1497, and 1590 respectively in stature. Their arm-reach in every case exceeded the height, in one the excess being 152 mm. The head indices were 80 to 81, the nasal indices 85, 98, 102, and 102. These are all true Negrito characters and, while there may be in some communities of Batak a considerable amount of Malayan blood, the predominant type is Negrito.

It appears also that the other pagan element in Palawan, known as "Tagbanwa," while predominantly Malayan and exhibiting the general appearance and manner of life of the Malayan, is in part Negrito, as is revealed by the following measurements of five "Tagbanwa" men taken at Eraan, thirty miles south of Puerto Princesa. These men include the chief, "Masekampo Kosa" and four of his retainers. Their stature varied from 1521 to 1595, less than the usual stature of a group of Malayan men. The arm-reach was notably greater than the height. All were brachycephalic, the indices being 79, 81, 81, 82, and 83. All were platyrrhinian, except one who was mesorhinian, the indices being 79, 88, 95, 100, and 105. In spite of these pronouncedly Negrito results, these men had the appearance of Malays, not Negritos. Their skin color was light brown, hair wavy not curly; their habits, bearing, and speech indicated the temperament of the Malay.

The "Mamanua" of Surigao peninsula, Mindanao, have long been recognized as of Negrito race. They were seen and described

by Montano in 1880. At the present time they are very few in number, and are found in the forest about Lake Mainit and in the hill country southward. They are fast being absorbed by the Manobo, who join their communities and intermarry with them. In a little village called Kicharao in the forest near Lake Mainit are Mamanua men married to Manobo women and Manobo men married to Mamanua women, the children of these unions sometimes presenting Negroid and sometimes Malayan characters. The opportunity to observe the immediate results of mixture between two different races is very unusual. Naturally this group is of mixed race, some individuals looking like pure Negritos and from this type varying all the way to primitive Malayan. Three men whom I measured had a stature exceeding the Negrito but in other respects were Negritic. The statures were 1583, 1594, and 1612; the cephalic indices, 80, 85, and 86; the nasal indices, 97, 102, and 111.

What has not been generally noted, however, is the fact that nearly all the peoples of eastern Mindanao, usually described as "Malayan" or "Indonesian," are to a large degree Negrito. This is especially true of the Manobo of the lower waters of the river Agusan. I have no measurements of these people, but the appearance of nearly every individual in their communities is Negritic rather than Malayan. The stature is very low and frail, hair black and wavy to frizzly, features negroid, and behavior that of the pacified Negrito. Similar characters, though in a less marked degree, display themselves among the tribes southward and about the gulf of Davao. There is no doubt that there is a large amount of absorbed Negrito stock in the pagan peoples of all this great island. Even among the Subanon of the Samboanga peninsula, who are perhaps as purely Malayan as any, I have seen occasional individuals with marked Negrito characters.

I shall not attempt here to estimate the proportion of Negrito blood in the Christian peoples of the Philippines—Bisaya, Bikol, Tagalog, Ilokano, etc.—further than to express my conviction that in certain regions it is very large and has greatly modified the primitive Malayan type. But let us turn to the consideration of possible Negrito blood in two interesting pagan stocks of northern Luzon, the "Igorot" and the "Ilongot" or "Ibilao."

The term Igorot is used to include all the wild, head-hunting, mountain-dwelling peoples of the great cordillera of Luzon, a region some two hundred miles in length by forty across. This mountain area is divisible into regions wherein the culture, physical type, and language of the inhabitants are homogeneous or nearly so. These regions, in reports made some years ago on the wild tribes of the Philippines, I have called "culture areas," and they may serve, in the absence of the tribal relation, as the basis of classification. Beginning with the southern end of this mountain system we have the area of southern Benguet and Kayapa inhabited by Igorot speaking a dialect called "Nabaloi." In northern Benguet, Amburayan, and southern Lepanto are the "Kankanay." In the central mountain region, a great area with several subdivisions, the "Bontok"; and southeast, occupying the former *Comandancia* of Kiangnan, the "Ifugao." North of Bontok are the "Tinglayan," the "Tinggian" or "Itnig," the "Kalinga," and "Apayao" areas, and perhaps others. Of these most northerly peoples I have no anthropometric data. Their general appearance is somewhat different from that of the Igorot farther south. They appear to the eye to be more slender and handsomely built, with finer features, especially in the case of the Tinggian. I am of opinion, however, that these dissimilarities are apparent rather than real, and that measurements and careful observation will demonstrate unity of physical type throughout the entire cordillera. This unity does not refer of course to manner of dressing the hair, ornamentation, artificial deformations, etc., in which there is wide variation. The ethnological origin of these Igorot peoples is at first very puzzling. They are obviously not typical Malaysians. Some physical measurements which I have should, and I believe do, throw some light on the problem.

On September 26, 1902, at Ambuklao, Benguet, I measured ten Igorot men from the villages of Baguio, Trinidad, Tublay, and Ambuklao. All were adults, from 20 to 40 years of age, except one, a boy of 16, who was, however, married and not inferior in stature to the others. These men all belonged to the poor or "kailian" class, except one who had arisen to the "principal" class from poor parentage. By "poor" class in Benguet is meant those who have

no cattle, rice terraces, mines, or other productive property and are liable to the forced labor of "polistas." The stature, arm-reach, and cephalic and nasal indices of these Igorot are arranged below:

HEIGHT	ARM-REACH	CEPHALIC INDEX	NASAL INDEX
1481	1489	83.0	82.9
1490	1550	75.7	85.8
1496	1532	78.9	104.8
1499	1556	79.7	83.3
1500	1567	76.8	83.5
1512	1588	87.5	75.0
1522	1583	76.0	89.4
1546	1602	81.2	97.7
1596	1564	82.3	79.1
1615	1647	96.3	105.0

Of these statures all but one are "short," or below 1600. In fact these men are only a little above the average stature of the Negritos of Mariveles (1450). Five are within 50 mm. of a true pygmy stature. The mean stature is 1500 to 1512, and the average is identical, 1505.7. In all but one case the arm reach exceeds the height, the excess varying from 8 to 36 mm. Six are brachycephalic, and four mesaticephalic, the variation extending from 75.7 to 96.3. The nasal index shows wide variation from 75 to 105, the mean being about 85. Four are platyrhinian, two exceeding 100, two are mesorhinian, and four are midway between Topinard's mesorhinian and platyrhinian types. The muscular development of these men is very strong, robust, or "stocky." The skin color is coffee brown with saffron undertone, lighter on trunk. Their hair is coarse and in nearly every case straight, in one case only being slightly wavy. The hair is usually scant on the body and about the face, but two men have relatively hairy bodies and legs. The eye in some cases appears to be oblique. The ear in every case is attached and normal. The chin is retreating and in one case the face is somewhat prognathic. The lips are thick and the under lip heavy. In several cases the supraorbital arches are prominent.

On September 29th of the same year, at Wagan, a small town in Kayapa, I measured fifteen Igorot of that town and of Losod. Eight were women and seven were men. The measurements and indices of these follow:

STATURE	ARM-REACH	CEPHALIC INDEX	NASAL INDEX
<i>Men</i>			
1413	1478	78.7	125.0
1493	1539	80.4	86.4
1512	1544	82.7	84.0
1550	1600	78.9	90.7
1589	1650	73.2	90.9
1594	1650	78.8	100.0
1653	1672	74.6	140.0
<i>Women</i>			
1351	1376	85.1	92.6
1367	1394	76.7	92.7
1423	1467	79.1	100.0
1433	1466	76.8	105.7
1435	1455	84.8	125.3
1435	1522	82.6	100.0
1442	1446	84.6	100.0
1509	1520	74.4	100.0

The mean stature (1550) and the average (1526) were a little higher than in Benguet. In every case the arm-reach exceeded the height. The shape of head in men and women shows a wide variation. Seven are brachycephalic and seven are mesaticephalic while one is dolichocephalic (73.2). The nasal index varies from 84 to 140—a truly astonishing series of noses! All are platyrrhinian except two, and nine of the sixteen have indices of 100 or over. The descriptive characters were much the same as for the Benguet group. There was occasional marked supraorbital development, retreating chin, and prognathism.

Two of the men deserve special remark. One was the very small fellow—a true pigmy (1413 mm.). He was named "Mokyao" and was born in Wagan. He suggested the Negrito in stature, in arm-reach (65 mm. in excess of stature), in nasal index (125), and in the slightly wavy quality of his hair. His head, however, was mesaticephalic (78.7).

The other was the Igorot of unusually tall stature, 1653 mm., and he was the most extraordinary savage I have ever seen. He was about 30 years old, named "Ngao," a native of Wagan. When he first appeared in our camp he almost startled us with the bru-

tality of his appearance. He was promptly dubbed the "Gorilla." His arm-reach was 1672, his head length 197, breadth 147, and index 74.6; his nose length 35, breadth 48, and index 140; his height and breadth of face were 179 and 139; width of shoulders 396; circumference of chest 880; of belly 810. His ears were greatly developed, his supraorbital arches most pronounced, and his whole appearance like a restoration of primitive man. He wore only a loin string and a deerskin knapsack, and was most extraordinarily blackened with dirt and the pitch from smoky fires. His intelligence seemed very low, but he was said to be married and to have two children.

In May, 1908, I measured two Igorot men at Akop's place near Tublay, Benguet, four men of Karao at Bokod and six men of Kabayan. These, like the preceding, were all Nabaloi, although the people of Karao speak a somewhat different dialect and are allied to the "Busul"—wild, robbing Igorot of the high mountains between the Agno river valley and Nueva Vizcaya. The statures and cephalic and nasal indices of these twelve men are given below:

STATURE	CEPHALIC INDEX ¹	NASAL INDEX ¹
1467	74.1	79.4
1508	74.2	85.1
1511.5	74.3	86.3
1529	75.2	87.6
1541	75.6	88.3
1550	76.0	92.0
1565	76.0	92.1
1572	76.2	93.7
1591	76.4	100.0
1602	78.1	100.0
1648	78.4	100.0
1681	79.7	100.0

The stature of these men is "short," about the same mean as that of other Igorot given above. Two, however, belong to Topinard's "above medium" statures, being 1648 and 1681. These are unusually tall Igorot and it may be worth noting that both belong to the wealthy or "baknang" class. The taller is "Belasco" of

¹The numbers are arranged serially.

Kabayan and the other "Akop" of Tublay. All are mesaticephalic and their indices cover the entire range of this class, 74 to 80. The most brachycephalic is "Belasco" and the next "Akop," the two of unusual stature. These men are less brachycephalic than the Igorot measured at Ambuklao and Kayapa, but the numbers in each case are too few to permit generalization. The group is platyrhinian for the greater part, four only being mesorhinian. On the whole this is a very homogeneous group of men. With two exceptions all are of about the same low stature, all mesaticephalic, all platyrhinian or nearly so. The hair of all is black, coarse, and straight, the body smooth and face as well, except that the men of Karao had a few mustache and chin hairs and seemed to be more hairy on the legs than the others. The profile of the nose was much alike in all, a straight short bridge, rounding bluntly at the end. The brows were rather prominent, especially in the Karao men.

In the same month I measured two men of Bugias, Benguet, and four of Suyok, Lepanto, all of whom were "Kankanay." These measurements were as follows:

STATURE	ARM-REACH	CEPHALIC INDEX	NASAL INDEX
1452	1490	75.3	100.0
1470	1545	78.8	88.6
1518	1577	79.2	95.0
1621	1676	78.8	97.8
1558	1554	72.8	92.6
1571	1591	81.0	83.0

These men are all of low stature, long armed, all platyrhinian, but having a very varying head-shape, one being dolichocephalic (head length 195, breadth 142, and index 72.8), and one brachycephalic, 81.

On the same trip, at Benawi, I measured ten Ifugao men. All were adult, well formed, and of the laboring or "polista" class. Their measures are as follows:

HEIGHT	CEPHALIC INDEX ¹	NASAL INDEX ¹
1465	71.00	85
1501	71.65	93
1530	74.00	95

¹The numbers are arranged serially.

HEIGHT	CEPHALIC INDEX	NASAL INDEX
1534	76.50	97
1556	76.90	100
1567	77.26	100
1579	77.80	106
1581	79.60	106
1600	80.40	118
1606	83.50	119

The mean height and the amount of variation are almost exactly the same as those found in Benguet. All but two are of "short" stature, while one approaches that of a Negrito. The head index is generally mesaticephalic, but three are dolichocephalic and two brachycephalic, the amount of variation being surprising. All are platyrrhinian, most of them excessively so. Their color was a dirty brown, with saffron undertone. The hair was black, abundant, and in every case wavy. The nose was flat, "bulbous," with a very rounding end, and deeply indented at root. The lips were full and prominent, the chin retreating, and eye-arches rather heavy. As these men sat together with their dark faces and abundant heads of wavy hair they had a suggestively Papuan appearance. Another peculiarity was their singularly depressed temples, which gave the face a very narrow diameter across the brow.

In the foregoing series we have altogether 53 Igorot, 8 of them women, whose physical characters may now be summarized. While this may seem a small number upon which to base conclusions, a few general statements may, with propriety, be made.¹

¹ Other anthropometric data on the Igorot besides that here presented are as follows: In 1905, at San Francisco, Dr A. L. Kroeber measured 18 men and 7 women of Bontok and published the results in the *American Anthropologist* for Jan.-Mar., 1906, p. 194. The stature of these men varied from 1460 to 1630, the average being 1550. The average arm-reach was 1572, the average nose length 41 and breadth 40, the index varying from 85.7 to 135.5; while the average nasal index was 99.8. The average head length was 186 and breadth 148. The cephalic index varied from 73.40 (dolichocephalic) to 85.47 (brachycephalic), with an average index of 78.43 (mesaticephalic). The data for the women were: stature 1486, arm-reach 1491, nasal index 85.7 to 108.8, average 99.7, cephalic index 78.59. These measurements conform closely to my own taken upon Igorot of surrounding localities.

More recently Dr Robert B. Bean of the Bureau of Science, Manila, has published the results of a study of the Igorots of Benguet. (*The Benguet Igorots: A Somatological Study of the Live Folk of Benguet and Lepanto, Bontoc*. Manila, 1908.) Dr

Arranging serially the statures of the forty-five men, it is found that two of them are below 1450 mm., nine are between 1451 and 1500, fourteen between 1501 and 1550, thirteen between 1551 and 1600, five between 1601 and 1650, and two are above 1650 and below 1700. I believe that these figures are representative of all the Igorot stock. From a personal experience extending over a good many years I think it may be asserted that the Igorot in all parts of the cordillera present about the same statures as those which I have here given. Belasco and Akop would be recognized as very tall Igorot in any part of the mountains. Two of the above are pygmy and all but seven are below 1600, and correspond to Topinard's "below medium" statures. We may say, then, with positiveness that the Igorot is one of the exceptionally short races of mankind. With three or four exceptions the arm-reach is greater than the height, usually by 40 to 50 mm. Thus, the short stature is somewhat compensated for by long arms, heavy, robust bodies, and short, muscular legs.

The cephalic index of both men and women ranges from 70 to 96.3, a very surprising range. Ten are dolichocephalic, 71 to 74.6; twenty-nine are mesaticephalic, 75.2 to 79.7; twelve are brachycephalic, 80.4 to 84.8, and two are hyperbrachycephalic, 85 and 96.3. Thus the vast majority of heads are mesaticephalic with more tendency toward brachycephaly than to dolichocephaly.

The nose represents on the other hand surprising uniformity. Only three noses are mesorhinian, 75, 79.1, and 79.4, thirty-nine are full platyrhinian, while twenty-two have an index of 100 or more. The mean index is 95.

From this comparison I think we may assert that in the mountain people of the southern half of the cordillera of Luzon we have

Bean measured 104 adult males, 10 adult females, and 30 boys. The average stature of the men was 1540, which is about my own average; but he seems to have found a maximum stature in Benguet of 1700, a very tall stature indeed and unprecedented in my experience with this race. He also considers the Igorot to be "essentially short armed." He found a very variable type of head (hyperdolichocephaly to hyperbrachycephaly). The nose was platyrhinian. Thus, in a general way, Dr Bean's results agree with my own, although his measurements were carried out with many more details than it appeared to me advisable to attempt. Our conclusions, also, as to the origin and affiliations of the Igorot are far apart.

a very short, long-armed, muscular race of dark brown color varying to saffron, with coarse black hair that is usually straight but in Bontok is sometimes wavy, and in Kiangnan regularly so, full lips, retreating chin, flat, broad noses rounding at the end and deeply depressed at the root, with an extraordinarily high nasal index, and heads that have great variation in shape but are usually mesocephalic or brachycephalic.

May we then draw a few conclusions? Obviously this is not a typical Malay type. To a possible basis of primitive Malayan stock some other racial element or elements have been added and thoroughly incorporated. The wide range in shape of head may be taken, I think, as probable evidence of such mingling of types. The color, the straight or slightly wavy black hair, and the temperament (the "psyche") of the Igorot show the Malay or Oceanic Mongol derivation. The short stature and limbs, the long arms, the shape and index of the nose, the occasional heads of hair that are too wavy for the Malay and would be unheard of in the Mongol—these things are Negrito, or at least they are characteristic of the black race of Oceanica.* The variability in shape of head would be puzzling were it not for the fact that both the Malayan and the black races of the Indian archipelago show a wide variability in this character of the head. These reflections have already suggested the theory that I have to propose for the origin of the Igorot, that he is an old, thoroughly fused mixture of the aboriginal Negritos, who still survive in a few spots of the cordillera, and an intrusive, Malayan race, who, by preference or by press of foes behind them, scaled the high mountains and on their bleak and cold summits and canyon slopes laboriously built themselves rock-walled fields and homes, in which they have long been acclimated. The culture of the Igorot has been greatly modified and advanced by the rigors of his habitat, but it is Malayan at base, as are the languages which he speaks. Except in one or two localities where there has been recent mixture with the still existing Negrito he does not make use of the bow and arrow, which are Negrito weapons, but uses the shield and spear for close fighting and the jungle knife or an interesting modification, the "headax," for both fighting and work.

While the above expressed hypothesis of the origin of the Igorot appears to me to have much probability, for a similar theory to explain the Malay type of the Ilongot or Ibilao I feel even stronger confidence. This curious people occupies a very broken mountain area formed by the junction of the Sierra Madre with the Caraballo Sur. This is the headwaters of the Kagayan river and to a less degree of the Pampanga. Besides being wholly mountainous it is covered with thick and well nigh impenetrable jungle, in which the scattered homes of these wild people are hidden and protected. They have long had the worst of reputations as head hunters and marauders, and little information about them has circulated except wild rumors of their strange appearance and treacherous ferocity.

They have been described as "very tall," "heavily bearded," "light in color," "white," and of a type elsewhere unknown in the Philippines. For most of these reports there is no foundation. My experience with this people is limited to two visits to two different communities, in 1902 to a group in the jurisdiction of Nueva Vizcaya and in 1909 to a community in the mountains back of Pantabangan, Nueva Ecija. On the first visit measurements and notes were made of four men and three women. Their stature was found to be as follows:

MEN	WOMEN
1480	1386
1518	1440
1553	1510
1590	

The average stature of these men was 1535, a little less than the average stature of Igorot, and so a very short human height. The cephalic index for the seven, and the nasal index for six (one missing) are as follows:

CEPHALIC INDEX	NASAL INDEX
79.7	77.5
80.7	82.5
80.8	88.6
83.8	88.6
85.1	88.7
87.1	90.9
88.0	

All are brachycephalic except one (79.7), and all are platyrhinian but one.

In the second community I measured twelve men and five women, with the following results:

STATURE MEN	STATURE WOMEN	CEPHALIC INDEX	NASAL INDEX
1610	1453	89	100
1583	1450	87	98
1582	1441	86	95
1580	1422	85.9	95
1570	1412	85	94
1544		84	93
1532		83.7	90
1503		83.3	89
1486		83	89
1467		81	88
1439		81	87.8
		81	87
1240 (a boy)		80	87
		80	83
		79	82
		79	82
		76	76

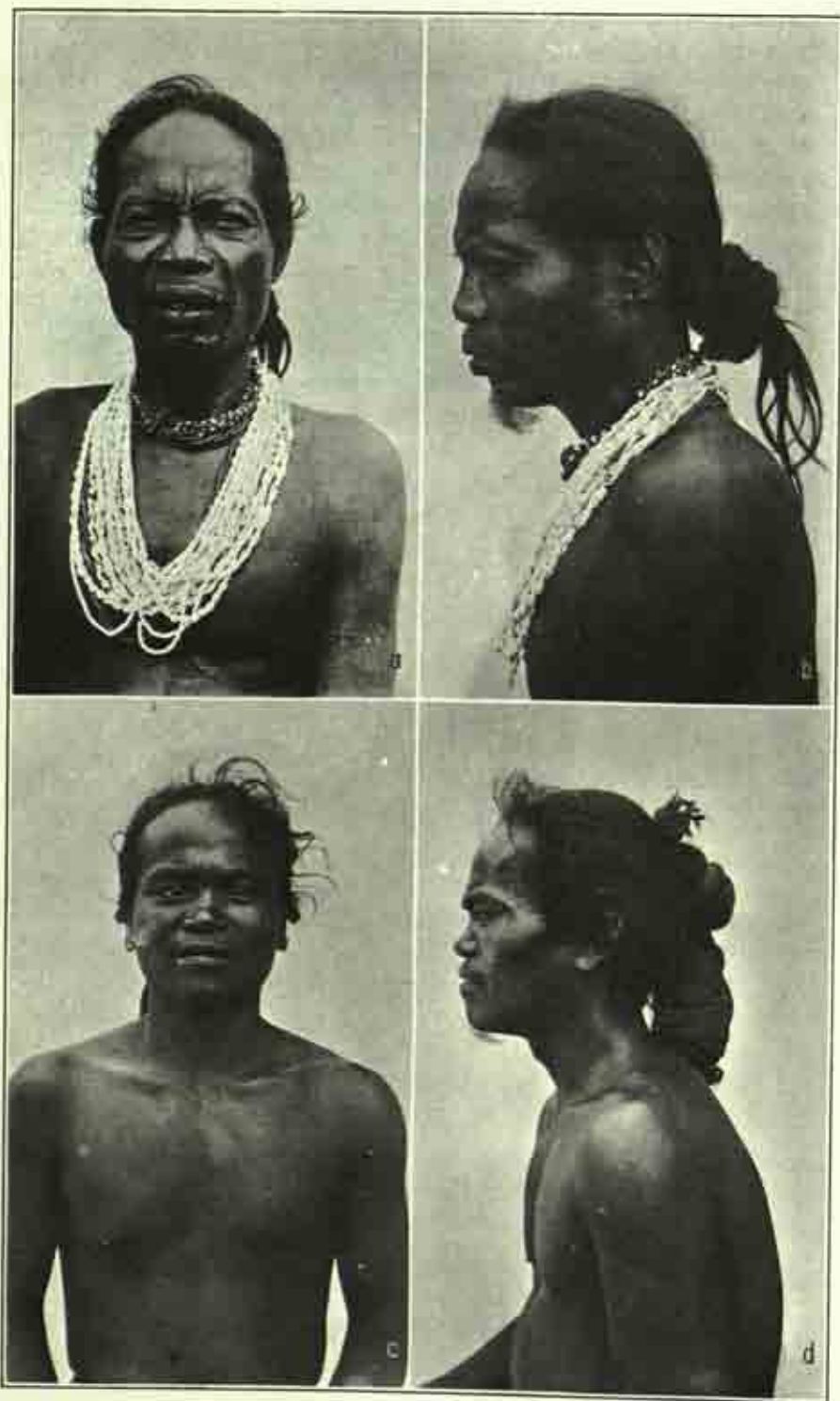
The height of these men presents a wider variation, as would be expected in the larger number (1601 to 1437), but the mean and the general results are the same. The head index is brachycephalic except in the case of three, and all are platyrhinian, or nearly so, except one. Thus in these Ilongot we have a short race, even shorter than the Igorot, brachycephalic and platyrhinian. Their hair is wavy, except when it is curly. It is usually worn long. The face is occasionally hairy; a few individuals have been seen with sparse but quite long, curly beards. Their eyes are larger, finer, and more open than is usual in the Igorot and the Malay. One peculiarity of the face is noticeable: it narrows rapidly from the cheek bones to the chin, giving the face a pentagonal shape. The color may be a little lighter than in the Igorot, who is more exposed to sunlight than the Ilongot of the forest, and it is much lighter than in the Negrito, but by no means light enough to justify any likeness to either white or Mongol races.

In these people we have, I am quite sure, a mixture of primitive Malayan and Negrito, with more Negrito than in the case of the Igorot. Stature, curly hair, short head, and broad, flat nose—these are all negritic characters, as is also the hairiness of the face and body. In fact there can be no doubt of the presence of Negrito blood in the Ilongot, for the process of assimilation can be seen going on. The Negrito of a comparatively pure type is a neighbor of the Ilongot on both the south and the north. Usually they are at enmity, but this does not, and certainly has not in the past, prevented commingling. The culture of the Ilongot is intermediate, or a composite of Malayan and Negrito elements. He uses the bow and arrow of the Negrito and the spear of the Malayan as well. There are few things in the ethnography of the Ilongot that seem unusual and for which the culture of neither Malay nor Negrito does not provide an explanation. One curious peculiarity, however, is an aptitude and taste for decorative carving, applied to the door posts, lintels, and other parts of his house, to the planting sticks of the woman, to the rattan frame of his deer-hide rain-hat, etc. But except for this there seems little that is not an inheritance from the two above strains or a development due to isolation in these mountainous forests that have long been his home.

In concluding this account of the Ilongot I cannot forbear calling attention to what appears to me a striking resemblance between them and the "Sakay" of the Malay peninsula as these latter are photographed and described in Skeat and Blagden's *Pagan Races of the Malay Peninsula*. There, as in the Philippines, we have a wavy-haired people (the Sakay) located in between, and obviously mingling with, the Negrito ("Semang") on the north and the primitive ("Jakun") Malayan on the south. The type is clearly intermediate between these two races, and every Sakay community seems to contain individuals that exhibit both pronounced Negrito and Malayan characters. There seem to be no culture elements in the ethnography of the Sakay that are not found in the life of Semang, Jakun, or allied peoples. And yet, in the face of what would seem to be the obvious and natural supposition that the Sakay is a half-breed of the Semang and Jakun, our authors, following Professor Rudolf Martin

(*Die Inlandstämme der malayischen Halbinsel*), discover in the Sakay a distinct race of wholly different origin from the Semang and Jakun—but allied to the Veddahs of Ceylon! This seems to me to be creating a far-fetched theory where none is necessary. While I have not had an opportunity of studying the Sakay at first hand, I am tolerably familiar with Negrito and primitive Malayan, and the results of their intermarriage, and every fresh examination of the texts and illustrations above referred to increases my belief that the Sakay, like so many of the types of the Philippines, is an exhibit to the widely diffused Negrito element in Malayan peoples.

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MANGYAN AND ILONGOT TYPES

a and b, A Mangyan chief of Bulalakao, Mindoro; Herrian type. c and d, An Ilongot man; Modified Primitive type.

PHILIPPINE TYPES

By ROBERT BENNETT BEAN

THE ILONGOTS AND THE MANGYANS

THIS is a study of contrasts and parallels. The Ilongots live in the interior of the island of Luzon, the Mangyans on the outskirts and in the interior of the island of Mindoro, and both are said to have Negrito blood. Considering the individual as a whole and the characteristics of the individuals independently of each other the two tribes are alike and unlike in physical make-up. Other contrasts and parallels will develop as the study continues.

The study is based on photographs obtained by Mr Worcester and others, all of which have appeared in the *Philippine Journal of Science*, and it will be conducted on the same plan as my previous study of the Negritos.¹ For details regarding the types of individuals and the forms of ears, see the study of the Negritos.

The Mangyans, though showing individual variations, resemble one another in the more important characteristics. They have modified Iberian ears, long faces, straight noses, and their general similarity is evident. European, probably East Indian, blood lies back of them somewhere in their ancestry.

By contrast with the Mangyans, the Ilongots have short, broad faces; short, broad noses that are depressed at the bridge and turned up at the tip; ears that are not Iberian, although an indication of slight eversion of the concha is present, nor are they true Primitive ears, but a modified Primitive of peculiar type. The ears may be described as short and not broad, with overturned and inrolled upper helix, slightly everted concha, and small, pendant lobule, in some cases resembling the true Negrito ear, and again a modified form of Primitive. It is found exactly as described, or somewhat modified, on the Ilongot men and women, although on

¹ See *American Anthropologist*, April-June, 1910, pp. 220-236.

the latter it partakes more of the Primitive type. The Ilongots are modified Primitive people in contradistinction to the Mangyans who are modified Iberians (see plate xv).

The hairy face of certain Ilongots is a noticeable feature and is in striking contrast with the smooth physiognomy of the Malays in general. It would be of scientific value to know the hereditary

characteristics of the face hair, to determine if its presence and absence follow Mendel's laws, or if it blends in inheritance.

Varying quantities of hair appear on the face, from the Ilongot with heavy beard and moustache to the man with smooth face, which indicates that presence and absence of hair on the face may blend in heredity.

The Mangyans have little or no hair on the face, although it is known that Negritos once existed in Mindoro; indeed, they may be found there now, in a mixed condi-

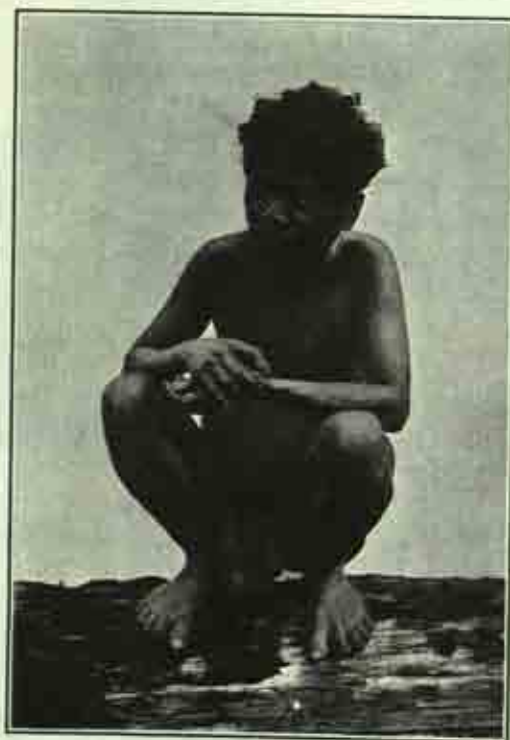
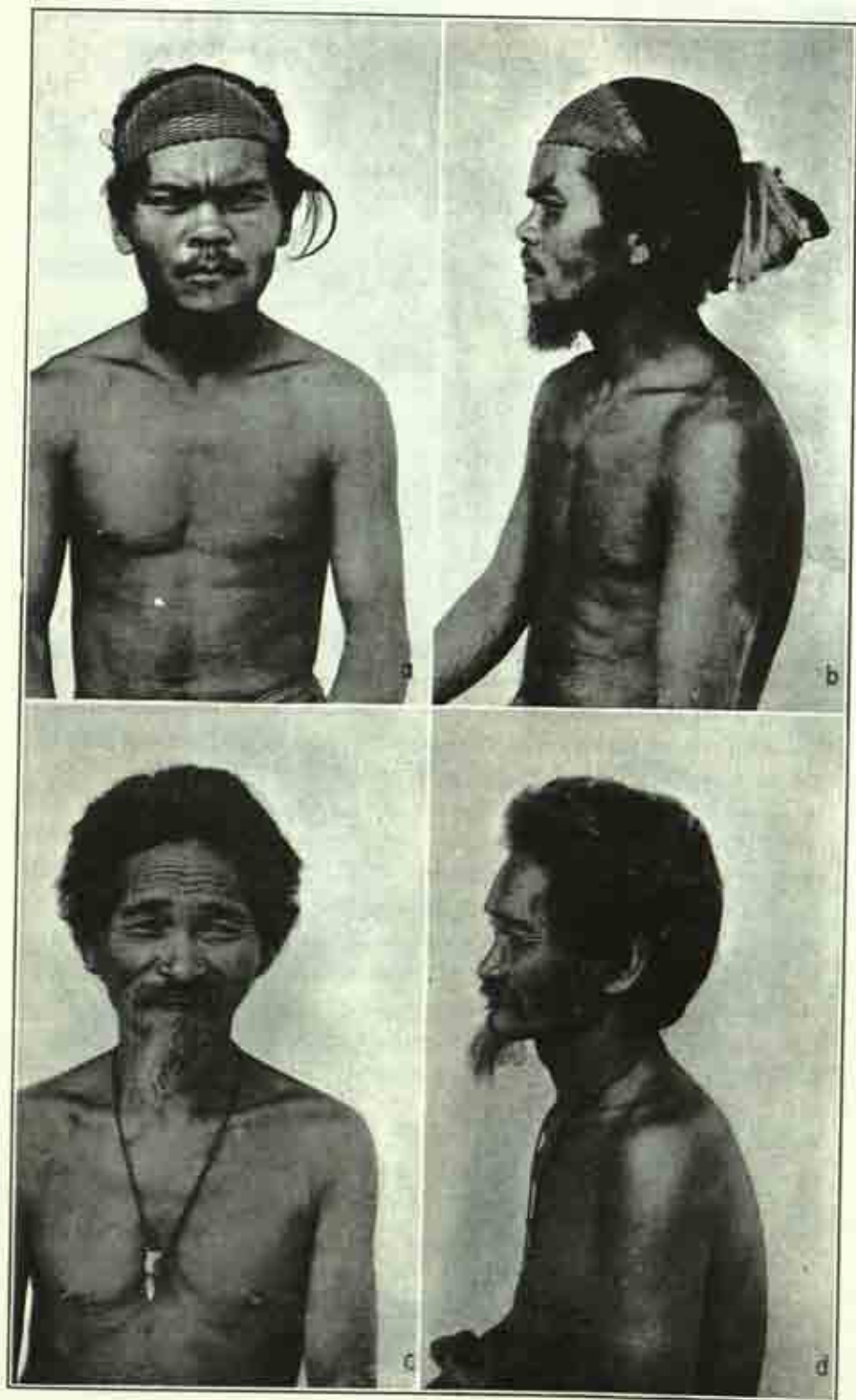


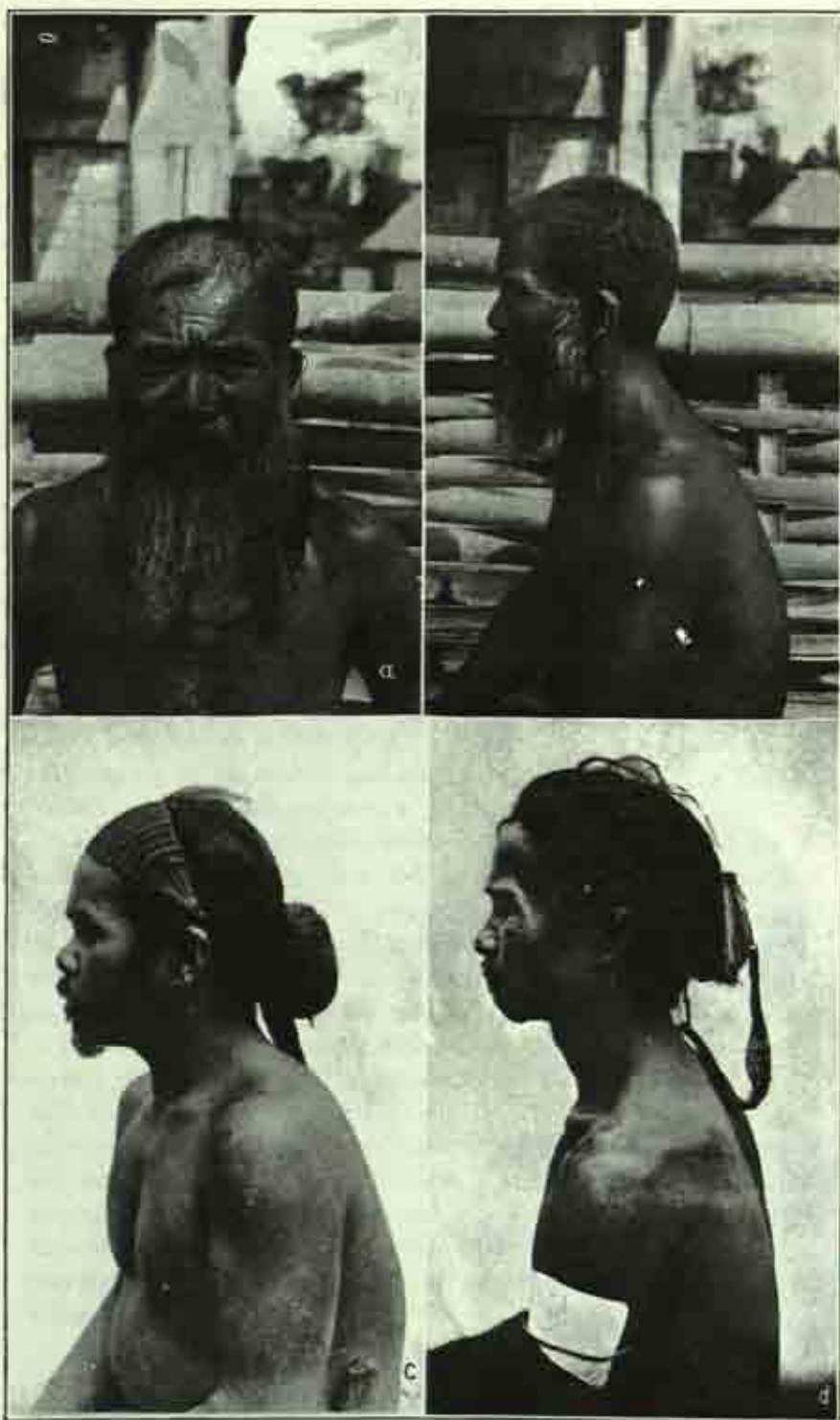
FIG. 38.—A mixed Mangyan Negrito from the interior of Mindoro: Primitive Australoid type.

tion, but enough traces are left to justify the conclusion that they once lived there and have disappeared; and the Negritos have hirsute physiognomy. A Mangyan with Negrito characteristics may be seen in figure 38, and it is evident that the hair is not kinky as in the Negrito, but curly, an indication, which has been noticed in other mixed Negritos, of blending in hair form. Hair is absent from the face in this man as it is in other mixed Negritos.



MANGYAN AND ILONGOT TYPES

a and b. An Ilongot man: Modified Primitive type. c and d. An Ilongot man resembling European and American types.



MANGYAN AND ILONGOT TYPES

a and *b*, An Ilongot Man resembling the hairy Ainos of Japan. *c*, An Ilongot man resembling Siberian types: Modified Primitive type. *d*, An Ilongot man resembling the Hindu Iberians: Modified Iberian type.

from which one may presume to say that the hairy faces of the Ilongots are not due to Negrito intermixture but come from another source. Some Ilongots resemble the hairy Aino of Japan, and others are not unlike types observed among white men in America and Europe. I believe that one element of the Ilongot population is an early man from Europe of Primitive or modified Primitive form, which remains in the heart of Luzon among the Ilongots almost as pure as it was originally in spite of the close proximity of Negritos, Igorots, and other peoples.

As evidence in support of this assertion I may present the photograph of an Ilongot who is so much like many Europeans that almost anyone can recognize the likeness to familiar faces at home (plate XVI, *c* and *d*). Another type similar to this, although more like the hairy Aino, is also found among the Ilongots and is here represented in plate XVII, *a* and *b*. These men are different from either the Primitive or the Iberian as found in the Philippines and described in previous studies, and may be considered as a Primitive form somewhat modified by the Iberian. Japanese types similar to these have been seen, and the relationship of the Ilongots to the Japanese cannot be doubted. Infiltrations into Luzon from Japan in early times are not improbable and would account for the presence of the types of this nature among the Ilongots, or the Japanese types may have been derived from Luzon, although the latter is unlikely.

Types resembling these but having more Iberian in their make-up are also found in Mindanao among the Subanuns,¹ and those types of Mindanao are probably remnants of what has been called the Indonesian, reported by Montano to be in central Luzon and central Mindanao. It cannot be denied that such types exist in those places, and they may be a rare expression of an early European migration, in a remnant yet uncontaminated by the surrounding peoples.

There are other Ilongots that resemble Siberian types such as those portrayed by Frau Dina Jochelson-Brodsky from eastern Siberia; the latter are of Turko-Mongol stock, related to the Eskimo

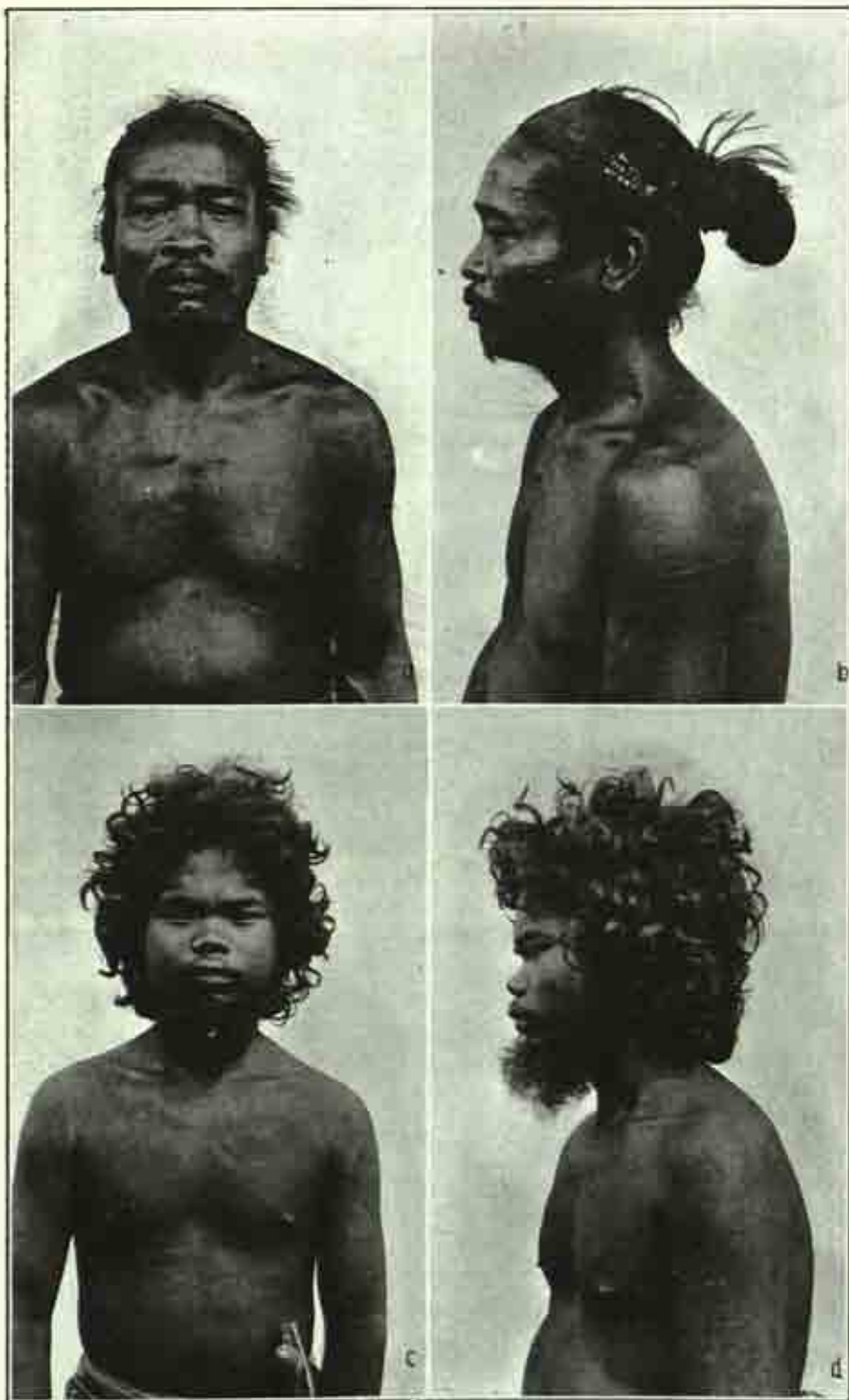
¹ See pp. 383-390.

on the one side and the Chinese on the other. The Siberians and the Ilongots are similar in respect to their Primitive features and ear form, the ear being like that described above for the Ilongots. The question naturally arises, and it remains unanswered, Is this type European or did it originate in Asia?

The man in plate XVII, *c*, resembles the Siberians particularly in ear form, yet he is also like other Ilongots that resemble Europeans, therefore one may suppose that this type came originally from Europe by way of Asia. The man in plate XVII, *d*, resembles the Iberian of Hindu type, as seen throughout the Philippines. There can be no doubt of the Hindu origin of many Filipinos, and a large part of the present Philippine population is of Indian origin. In the heart of Luzon may be seen these two different modified European types—the one resembling types of northern Asia, the other resembling types of southern Asia. The heart of Luzon seems to have been the meeting place of two streams of migration from Europe, one through Siberia, the other through India; at least this would be a satisfactory explanation of their presence, and, I believe, expresses the truth.

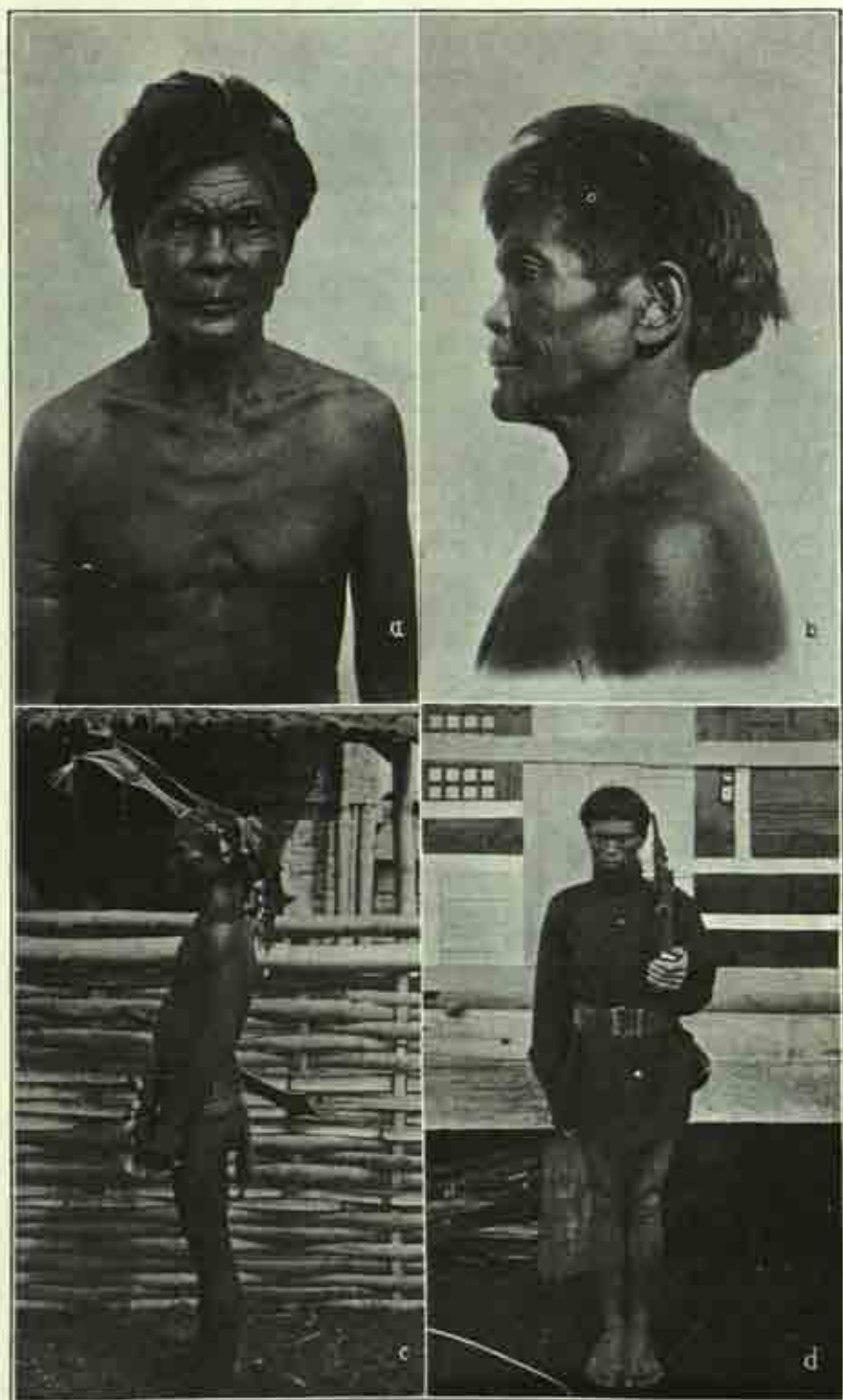
There are also Ilongots that resemble the Igorots, such as the man in plate XVIII, *a* and *b*, yet to some extent they retain the characteristic ear and nose of the Ilongot. This man has the long, straight-sided face, the widely flaring nostrils, and the general appearance of an Igorot, but the turned-up nose and overturned upper helix of the ear are like the Ilongot. Infiltration from the direction of Benguet and Bontoc must have occurred at no remote date.

In marked contrast to the straight-haired Ilongots described and portrayed in previous pages is the curly-haired Ilongot of plate XVIII, *c* and *d*. In type this man resembles other Ilongots who have straight hair, but he is said to be an Ilongot mixed with Negrito. The Negrito element cannot be denied, because the physiognomy is not unlike primitive Negrito types; but if this man is a mixed Negrito, then Negrito elements may be assumed to be present in many other Ilongots with straight hair, such as those in plate XV, *c* and *d*, and plate XVI, *a* and *b*, and in plate XVII, *c*, all of whom are of the Primitive type that is similar to this mixed Negrito. My



ILONGOT TYPES

a and *b*, An Ilongot man resembling the Igorots. *c* and *d*, An Ilongot man with curly hair, reported to be a mixed Negrito.



MANGYAN AND LONGOT TYPES

a and b, A modified Primitive Mangyan. c and d, Longots before and after the American occupancy.

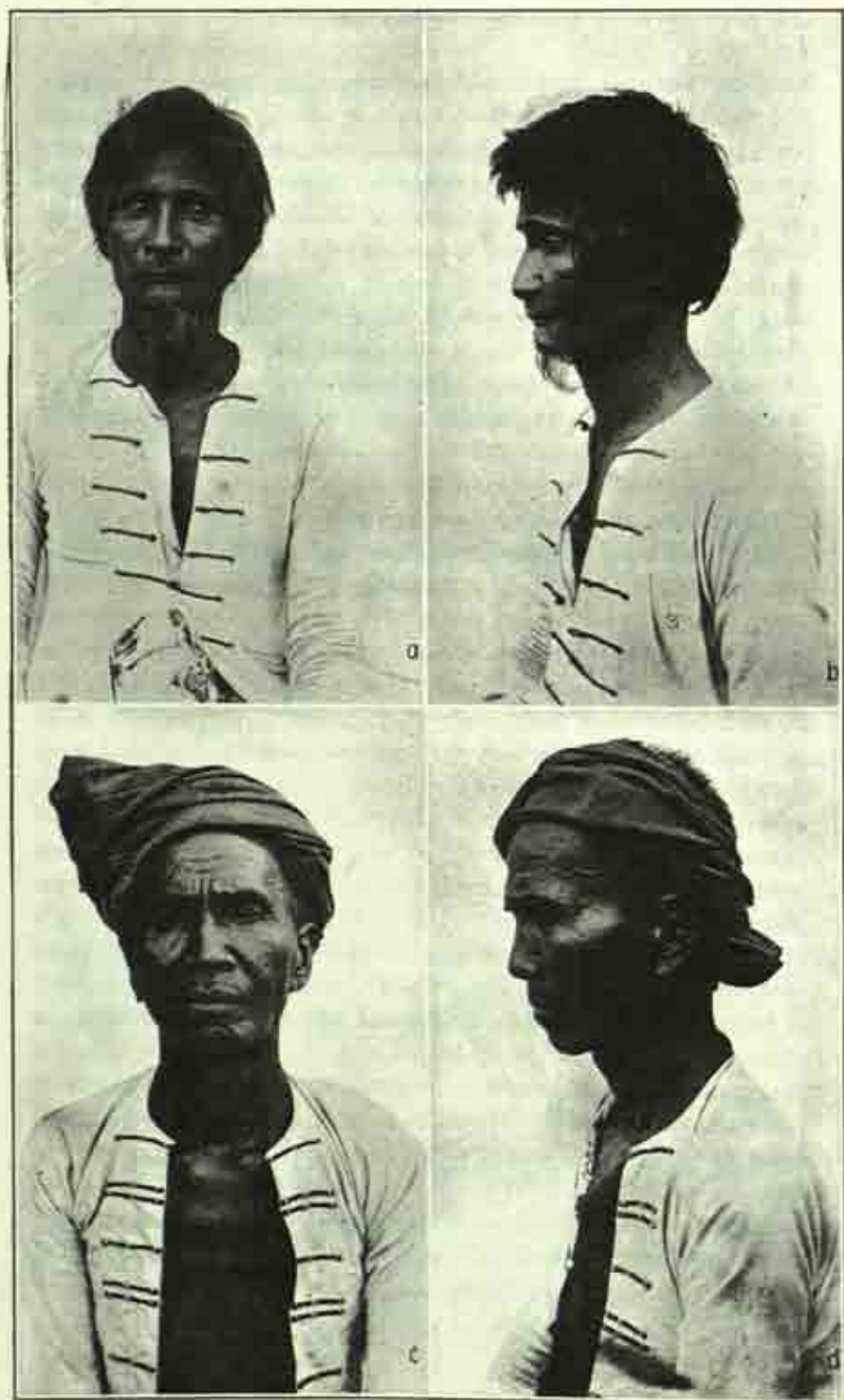
opinion is that the man shown in plate XVIII, *c* and *d*, is the product of a Primitive Negrito crossed with a Primitive Ilongot such as the one shown in plate XVII, *c*, the resulting progeny having fuller lips and more depressed nose than the Ilongot, yet a nose that is not so prominent and is shorter than the Negrito, with curly hair that is intermediate between the two. The condition of curly hair indicates that in a cross of kinky and straight hair there is blending of hair form and the production of the intermediate curly variety.

Before leaving the Ilongots one may turn to note a final contrast between them and the Mangyans. As already demonstrated, the Ilongots are largely modified Primitive in type and the Mangyans are largely modified Iberian, but there may be seen Iberian Ilongot women and Primitive Mangyan women. The Iberian woman is relatively pure in type, and not unlike the East Indian Iberians so often encountered in the Philippines who have eyes that open wide and skin that is very dark. The ear is Iberian in its characteristics. The Primitive woman resembles the Primitive Negrito, the Australoid affinities of which cannot be denied. Primitive and Australoid women may be so nearly alike that it would be almost impossible to recognize the difference between the two without making measurements. The Mangyan woman of the Primitive type may have some Negrito blood, but there is no evidence of it in the hair, which is coarse and straight.

Modified Primitive men are to be seen among the Mangyans, such as the man in plate XIX, *a* and *b*, who has the rectangular shaped head and face that indicate Iberian affinities; the ear is a mixture of the Primitive and the Iberian ear, and the nose is also mixed as if it might be modified Primitive-Iberian. Types of this form are not rare in the Philippines, especially among the inland tribes, and are probably early or Primitive Malayan types.

To summarize: The Mangyans are largely Iberian, although some of the women are Primitive in type and resemble Negrito women with Australoid affinities. The Ilongots are largely Primitive in type, although some Ilongot women are Iberians. One might infer from this that the primary inhabitants of Mindoro were Primitive and Australoid in type and the invaders were Iberians,

whereas the primary inhabitants of Luzon were Iberians and have been superseded by people of more Primitive type. The Mangyans of the interior of Mindoro are some of them mixed with the Negritos; the latter have disappeared. Negrito types may also be seen among the Ilongots, not Australoid in form as are the Mangyan Negritos, but partaking of the Primitive type of the Ilongots. The Ilongots of Oyao and Canadem are similar to Siberians of Mongol stock, and other Ilongots resemble the Igorots. The sequence of types in Mindoro among the Mangyans would seem to be Australoid, Primitive, Iberian. First there were the Negritos, then came the Primitive from Europe by way of Siberia, after which there came the Iberian from Europe by way of India and overwhelmed the others. The sequence of types in Luzon as represented by the Ilongots is not so clear. There are two fundamental types, the Primitive resembling the Siberian, and the Iberian resembling the East Indian. The former is in greater numbers than the latter. There are also pure European types, and other types resembling the hairy Aino of Japan, besides the mixed Negritos and still others like the Igorots. The possibilities are that at least six migrations left their impress upon the Ilongots. One of the earliest may have come directly from Europe, without mingling with the natives of the East on their way, and a remnant of this migration exists in purity today. Another migration came from Europe at a different time and by another route, but like the first mentioned it did not loiter on the way and today remains uncontaminated. One of these migrations, the Primitive, came through Siberia, and the other, the Iberian, came by way of India. A third migration resulted in a deposit of the hairy Aino from Japan. The Negritos have come in from the mountains roundabout, and recently the Igorots have wandered in from the west. The modern so-called Malay has reached them only in the last few years. These are mere suppositions on my part but they seem plausible after studying the physical characteristics of the Ilongots and Igorots, although it is possible that the types resembling the European, the Siberian, and the Aino are but modifications of one primary European form resembling the Primitive, or at most of two, the Iberian and the Primitive, and the recent migrations are intrusions from the surrounding regions of the Igo-



SUBANON TYPES

a and b. A Subanon of Mindanao: An Iberian type similar to Modern Europeans. c and d. A Subanon from Mindanao: Modified Primitive.

rots, the Negritos, and the Neo-Malays. Evidences of the Australoid are not present to any extent among the Ilongots.

The Mangyans are long-legged, the Ilongots short-legged, although some have legs of intermediate length. In this respect the Ilongots resemble the Primitive, and the Mangyans the Iberian and the Australoid.

The Ilongots have hairy faces, whereas the faces of the Mangyans are glabrous. The presence of many Negrito types with straight hair and glabrous faces among the Mangyans indicates that these two characters are dominant in a population where they predominate, the opposite characters of bearded faces and kinky hair having disappeared or else they are recessive.

THE MOROS AND THE SUBANUNS

The Moros live along the littoral of the island of Mindanao, in the Sulu archipelago, and on the island of Palawan, and the Subanuns live in the interior of the island of Mindanao. The two peoples are evidently related, but the isolated position of the Subanuns has kept them relatively free from mixture with outsiders, whereas the Moros have mingled freely with the natives of the Philippine archipelago, and with passing migratory bands.

The Subanuns are to a great extent Iberian in form and physiognomy (see plate xx), although Primitive and Australoid types are not altogether absent (see plate xxi, *a* and *b*). The old man in plate xx, *a* and *b*, is not unlike European and American men of the present day, although his skin is dark and his beard is scant. The old man of xx, *c* and *d*, is more like the Moros or Filipinos of other parts, although distinctly Iberian in physiognomy, even to the ear form, which is of the Iberian type A, having no lobule, but an everted concha, and a spiral-shaped, rolled-out helix. The modified Primitive of plate xxi, *a* and *b*, has a short, wide, depressed nose, thick lips, broad, round face, and the ear has a depressed concha, and inrolled helix, thus showing distinctive Primitive characteristics.

The Iberian of plate xx, *a* and *b*, who resembles European types, is similar to another Iberian from the heart of Luzon among the Ilongots, who also resembles European types,¹ and there are other

¹ See preceding section.

Subanuns who resemble men from the interior of Luzon, therefore this similarity may imply relationship. If it does, we may suppose all of these Iberian forms represent the remnant of a very early European migration that reached the Philippines without great mixture on the way. This may have been the Indonesian of Keane and Montano. The islands of Luzon and Mindanao are the largest in the Philippine archipelago, hence one would suppose that the tribes of the interior of these two islands have been influenced less than those of the coast or of the other islands by recent mixtures

with the Malay or the European, and the types among the inland tribes would represent original elements of the Filipinos. The European derivation of the inland tribes cannot be denied. The Moros of Mindanao are nearly all of modified Iberian form (figure 39; plate XXI, *c* and *d*, and plate XXII). The sharp nose with high bridge, the long face with pointed chin, and the Iberian ear with everted concha and rolled-out helix signify a derivative origin from Europe. The Moro Iberians are different from the Iberians of

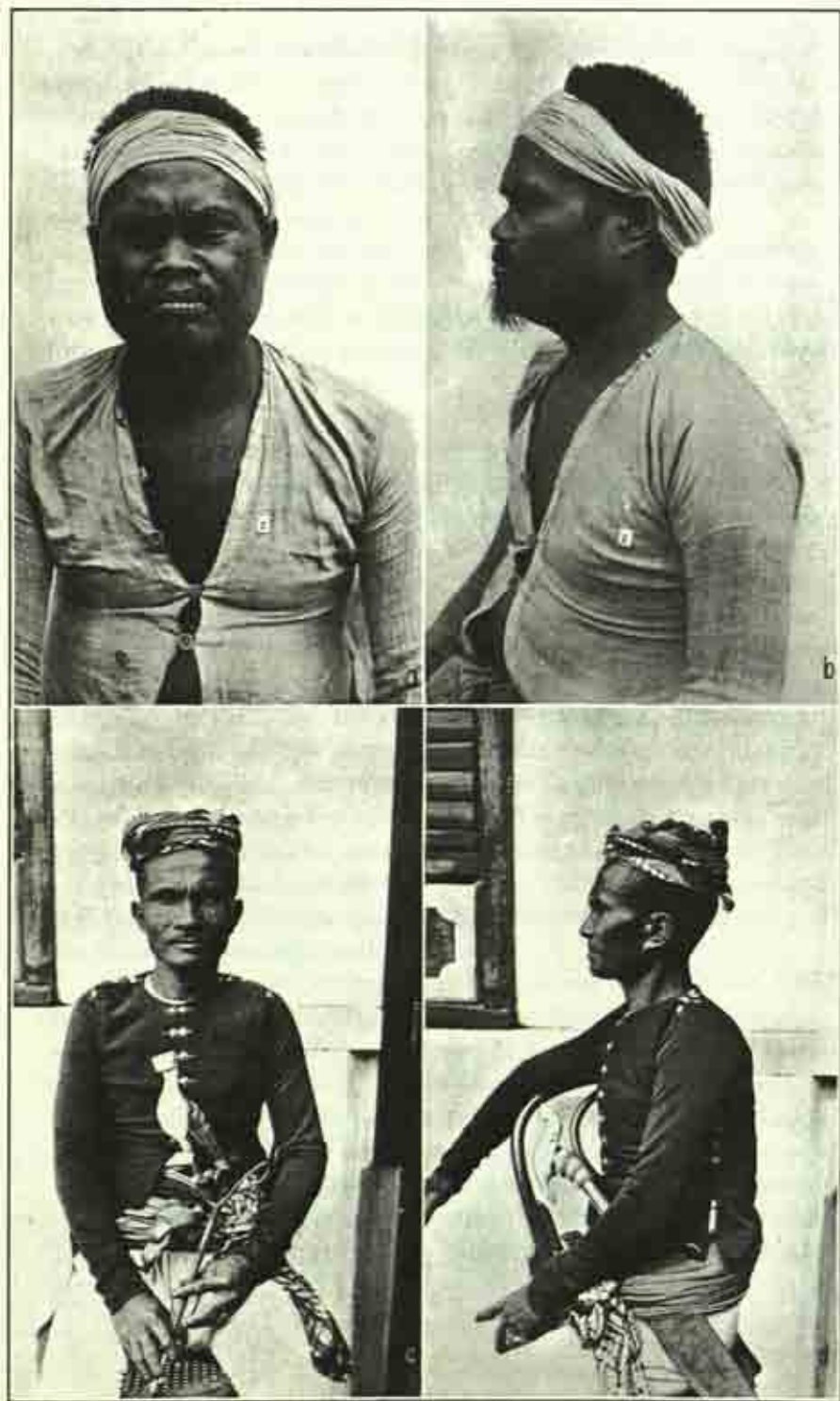


FIG. 39.—A Moro Dato, Dacula.

Luzon but similar to the Subanun Iberians. Arabian blood in the Moros may account for the difference and the similarity.

This glimpse of inland Filipino types¹ serves to impress one with the prevalence of the Iberian, especially among the leading men of the tribes, for it is such men that are as a rule the ones whose photographs have been taken. The uniformity of distribu-

¹ See the preceding section, and *Types of Negritos in the Philippines*, by the author of the present study, in *American Anthropologist*, April-June, 1910, pp. 220-236.



SUBANON AND MORO TYPES

a and b. A Subanon of Mindanao; Modified Primitive type. c and d. A Moro Dato; Modified Iberian type.

tion of the Iberian is exceeded only by the diversity of type, each group or tribe having an Iberian form different from the other groups. Thus the Iberian Kalingas and Bontoc Igorots are similar to the Hindu Iberians, the Moros and Subanuns are similar to the Moors or Arabs, and in the heart of Luzon and Mindanao are types similar to existing European types in America.

In addition to the Iberian types there are Primitive, modified Primitive, and Australoid types among the tribes, as well as those with modified Alpine and modified B.B.B. affinities, which represent forms of the Orient that are not of European origin but have been modified by European types.

It seems to me, therefore, from this and previous studies, that the fundamental types—Iberian, Primitive, and Australoid—have entered into the population of the Philippines throughout the archipelago, and for that reason all the people of the Philippines are similar in type (see plate XXIII). The different islands, and different localities in any one island, have received varying proportions of the three fundamental types,—sometimes pure, sometimes mixed with each other,—coming from different places where fusion had already fashioned a modified type; and local conditions, endogamy or exogamy, inbreeding or breeding out, differences of soil, climate, food, and water, have affected the groups in many ways, with the result that one tribe differs from another at present, although individual members of the different tribes resemble each other. European types such as the Alpine and B.B.B. may have entered the islands from time to time, or the modified Alpine and B.B.B. types may be the result of combinations in various ways of the Iberian, Australoid, and Primitive.

Three distinct migrations from Europe are evident from three modified Iberian forms: one from Europe direct, without mingling with intervening peoples, as represented by the almost pure European types in the heart of Luzon and Mindanao; one by way of India in which the types are the Indian and the so-called Malay; and one from Arabia and north Africa, the Mohammedan of history. There is also evidence in the Ilongots of another European migration through Siberia, possibly another through China, and also one from Japan. The Iberian type is from Europe: the Australoid type may

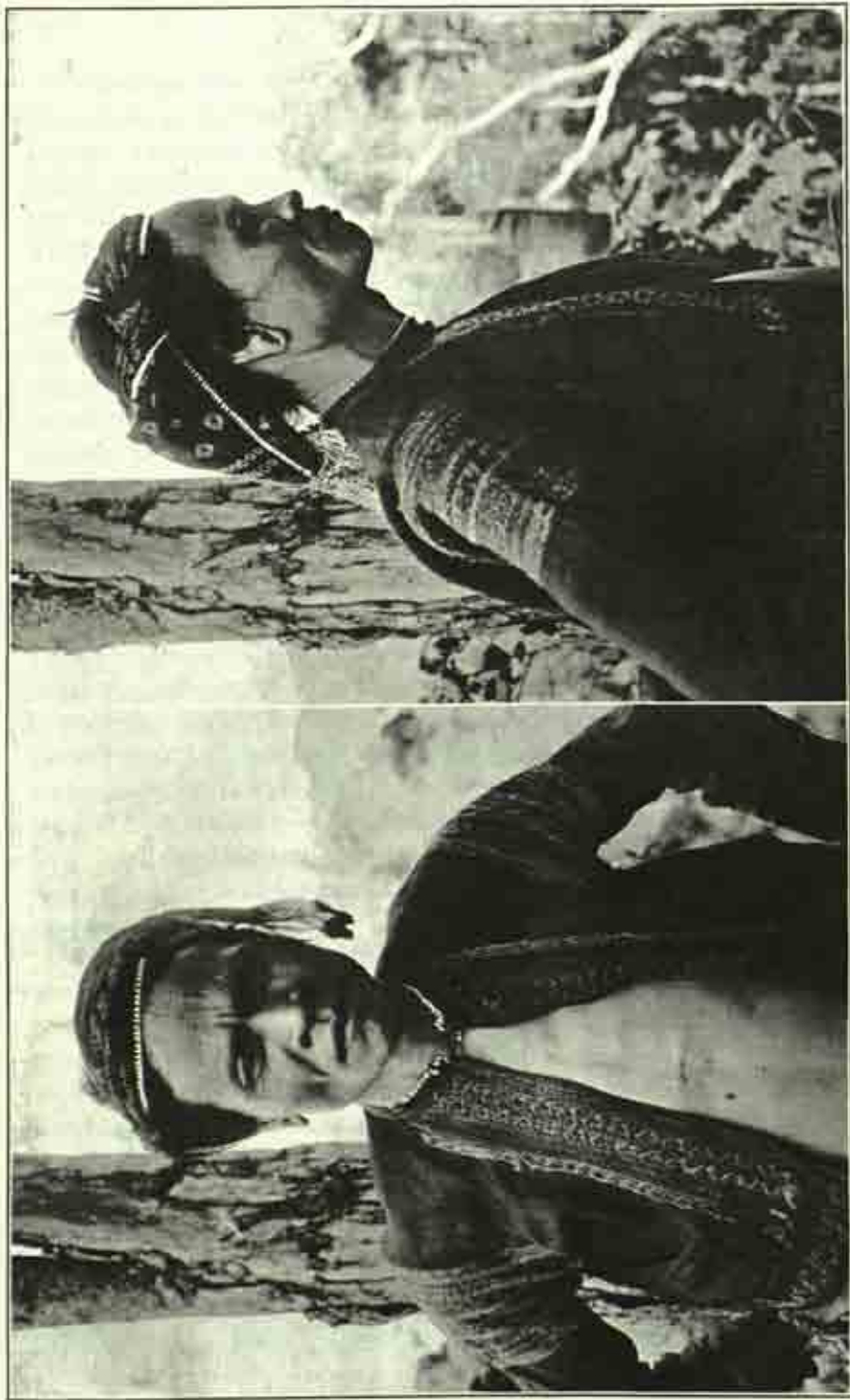
antedate the Negritos, it may have resulted from them by crossing with other types, or it may have been brought in with the other types in the mingling migrations of the Europeans: the Primitive type is probably Oriental in origin, although modified Primitive Europeans have been seen by the author.

There have been waves of migration through the Philippines which have apparently come largely from the south, and each succeeding wave finds the remains of the preceding one and in receding leaves its own remains, sometimes penetrating farther than its predecessor, sometimes falling short and retiring before having reached the remaining portions of previous waves. A crescent would represent the form of the wave, the center advancing farther than the sides. Three crescents might be placed across the archipelago to represent the three European migrations. The first would center in northern Luzon about the Ifugaos and Ilongots, representing the purest European types, the crest of the wave having crossed central Mindanao and left traces among the Subanuns; the second crescent would cross the island of Mindoro but would have an eddy or advance point among the Kalingas and Bontoc Igorots; the third has its center in Sulu. The Mohammedan crescent advanced northward, but receded to Sulu when the Spaniards came.

I have touched only the outskirts of the problem that confronts the racial anatomist in the Philippines, and whatever I have done is in the way of suggestion rather than conclusion.

SUMMARY AND INFERENCES

Each locality in the Philippines has a flavor of its own, a local coloring of habit, dress, custom, or what not, and the types of individuals in any community are somewhat different from those of any other community, but fundamentally similar types may be found in all parts of the Philippine islands. The kinky hair, dark skin, and diminutive stature of the Negrito distinguish them from the average Filipino with straight hair, light brown skin, and medium stature, from the Chinamen with straight hair, yellow skin, and medium to tall stature, or from the European with straight or wavy hair, white skin, and medium to tall stature; but the same physical types may be found in each group.



A MORO DATTO: MODIFIED IBERIAN TYPE

There are three fundamental types which are found among all the peoples of the Philippines, and the three types I have designated Iberian, Primitive, and Australoid. The Iberian is of the classic Greek mold, thin, wiry, and trim, and may be differentiated from the other types by the ear form, cephalic index, and nasal index. The ear is characterized by the eversion of the concha, the rolling out of the helix, and the spiral shape of the outer rim as seen from behind; the cephalic index is low, the head long and narrow; and the nasal index is low, the nose long and aquiline. The type is called Iberian because the purest living representatives are to be found in Spain, the Iberian peninsula. The Primitive is in direct contrast to the Iberian because of the stocky build, usually short, squat, and fat; the ear is distinctly bowl shaped, with depressed concha and rolled-in helix; the head is short and broad, and the nose is short, broad, and flat, with depressed root. The type is called Primitive because it is infantile, because it is called Primitive by Hagen, and because it is found largely among the so-called Primitive peoples of the earth. The Australoid is neither thin and delicately molded nor squat and fat, but is rather lanky and heavy in body and limb. The ear is large, somewhat bowl-shaped, with a sloping shelf for lobule, and the helix is horizontal in its upper part, making a square bowl instead of a round one as in the Primitive. The head is long and narrow, but the nose is broad, long, high, and large in all dimensions. This type is called Australoid because it is believed to be the fundamental type of Australia and of all negroid peoples.

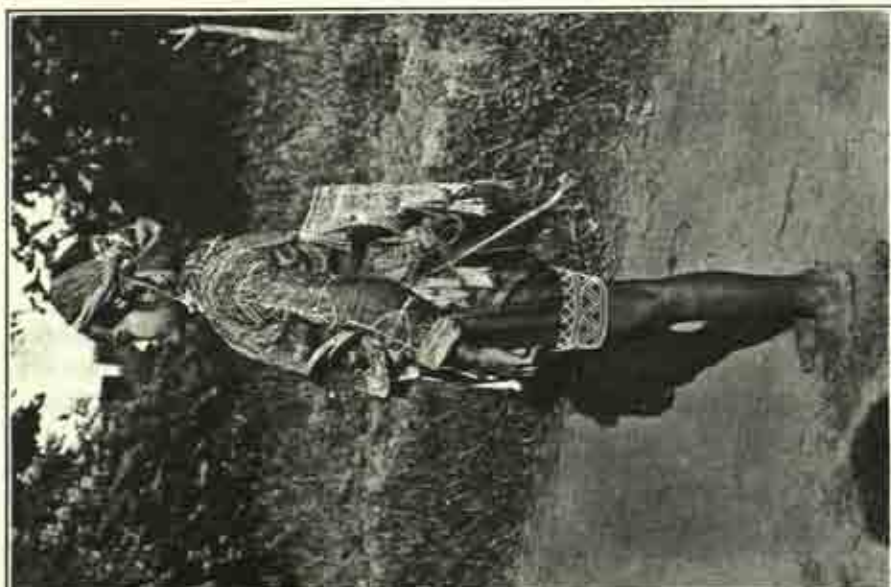
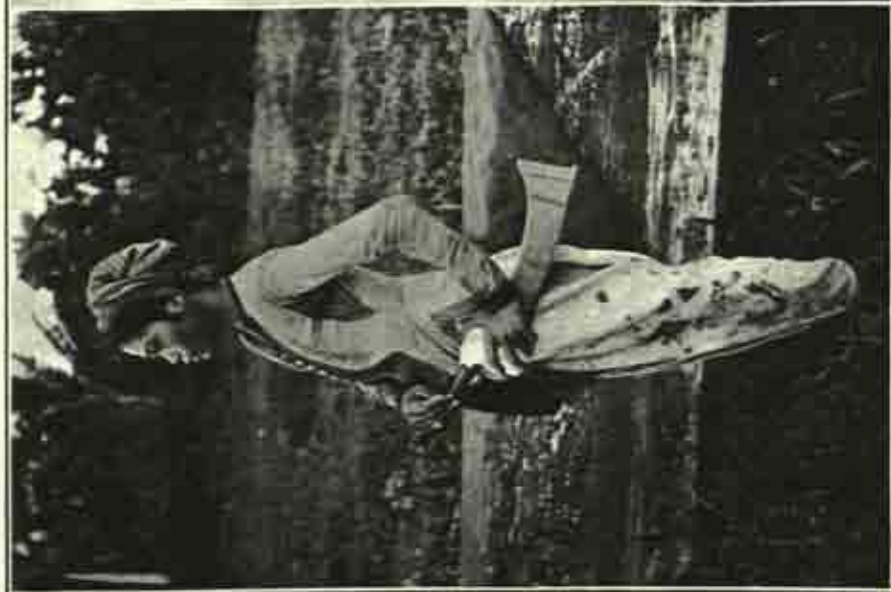
Other types appear in the Philippines, such as the Alpine with broad head, narrow nose, and ear that has a peculiar shelf for lobule that passes diagonally downward into the cheek; the B.B.B. (big-cerebellumed, box-headed Bavarian of Ranke, so-called by Beddoe) with oblong head and face, narrow nose, and oblong ear; and the Cro-Magnon who is a modified Iberian with long head, big nose and face, and stature above the average; but these types represent combinations and modifications of the three fundamental types and bridge over the gaps between them. The Australoid in some respects seems to be a combination and modification of the Primitive and Iberian, and if this be true the last two types are the two from

which all the others are derived. It may be, however, that the Australoid is the fundamental type, and the Primitive and Iberian, as well as all the other types, are derivative forms through evolution.

The distribution of the Iberian is general throughout the Philippines, but it is present, purer in type and in greater numbers, in some localities than in others: in the latter case there is evidence of a derivative origin from India or Europe. At Cainta, a village near Manila, for instance, the people are tall, black, and pure Iberian in type, at least the majority of them are, and records and tradition indicate that these people were derived from India. Some of the purest Iberians among the inland tribes are the Kalingas and Bontoc Igorots who are no doubt of Indian origin. Modified Iberians are plentiful among the Moros and Subanuns of Mindanao, and their origin may be traced to Arabia, which the Iberian reached from Europe. In the heart of Mindanao, Mindoro, and Luzon are to be found pure European types that represent an early migration from Europe, probably by way of India. Throughout the littoral section of the islands the Iberian type is predominant because of recent Spanish interbreeding with the natives, as seen among the mestizos who are of this Iberian type, although the influence of the early European migrations, the migrations of the Arabians as Moros or Mohammedans, and the Indian migrations preceding the latter, may account for a part of the Iberian population of the littoral or coast regions.

The distribution of the Primitive is quite as general as that of the Iberian, but where the Iberian predominates the Primitive is not so plentiful, and vice versa. The Primitive centers, so to speak, in Luzon, where the Ilongots and the Benguet Igorots are to a great extent of this type. It is also found among the Visayans, Tagalogs, Ilocanos, and other coast tribes. It is seldom pure in Mindanao or the Sulu archipelago, where the Iberian predominates. The type forms, however, a large part of the population, and it is questionable whether or not the Iberian exceeds it in numbers.

The Australoid is the fundamental Negrito type and it is found purest among the Mariveles Negritos and along the eastern coast of Luzon. It is also found elsewhere throughout the islands in populations that are not Negrito, where it is somewhat modified but has



PHILIPPINE TYPES

(From left to right.) A Moro youth in full costume; A Sulanon girl in full costume; A Bagadio youth in full costume.

a form that is clearly recognizable. It has been found by me wherever I have observed Filipinos and is one of the three fundamental types of the islands.

The origin of the three types is not entirely clear. There can be no doubt that the Iberian is the same as the Mediterranean race of Sergi, derived originally from Europe. The Primitive has a wide range of distribution according to Hagen, being found in South America, Africa, the Pacific islands, and on the mainland of Asia. Wherever found it has associated with it a type resembling the Australoid, therefore the two may have originated together. If they did not, they have at least drifted together over the world and are found together at present over a large extent of the earth's surface. The Australoid type is a large element in the composition of the negro people, judging from observations on many hundreds of American negroes.

The following conclusions are tentatively made from observations of Europeans, Filipinos, and negroes. The Iberian is the fundamental European type, but modified Primitive and Australoid types may be found among Europeans besides the composite types, such as the Alpine, B.B.B., etc. The Australoid is the fundamental negroid type, but a great many Iberian and Primitive forms are found among negroes, and the composite types are also present. The Primitive is the fundamental type of the Orient and of the Pacific peoples, but both Iberian and Australoid as well as the composite types are to be found there. Among Europeans the other types resemble the Iberian; among negroes the other types resemble the Australoid; and among Orientals the other types resemble the Primitive.

The composition of any group of people, large or small, depends on the relative proportions of each type that entered into the composition of the group, the time during which the types have been in contact, the conditions of food, water, air, habits, etc., and other factors. There is no evidence that any type of man that ever existed has disappeared entirely, although there is evidence that the types have become somewhat modified in different parts of the world.

THE CAVE DWELLINGS OF THE OLD AND NEW WORLDS

By J. WALTER FEWKES

IN considering many subjects suitable for a presidential address that of "The Cave Dwellings of the Old and New Worlds"¹ has seemed to me timely as illustrating certain aspects of culture history that are only vaguely comprehended by those unfamiliar with our science, and often overlooked by professional anthropologists. The subject enables me to call attention to the intimate connection existing between history and geography, and to lay before you data bearing on the theory that culture similarities in distant lands are due not so much to derivation as to a mental unity on account of which human thoughts are similarly affected by a like environment. This subject also brings into relief significant limitations of the theory that culture development is due wholly to external conditions, while the data here presented show the existence of diversities in culture which have apparently no relation to those conditions.

There is nothing produced by the human mind and hand that reflects individual and racial characters more accurately than man's habitations. It is a far-reaching ethnological law that the house is the most truthful expression of the mind of the inhabitant; natural man in constructing his dwellings must avail himself of the material which is nearest at hand for that purpose.

It is convenient for purposes of study to consider human habitations as arranged in two series which are not necessarily local lines of evolution: houses of wood including those of sticks, bark, grass, hides, and those of stone embracing earth, clay, and the like. Our subject is especially concerned with the origin and development of the latter. The simplest kind of durable house or shelter is the cave, the choice of which for habitation generally leads ulti-

¹ Presidential address delivered before the Anthropological Society of Washington, April 12, 1910. This address was accompanied by stereopticon views illustrating many of the points presented, which cannot be reproduced as illustrations.

mately into permanent structures. The cave as an element in the history of human habitation is conditioned in its influence by its geographical extension.

You may have noticed that I have spoken of the intimate connection of history and geography, and it may be added that in using the former term I include in it both ethnology and archeology. It seems to me that the time is coming when the science of history will no longer be made up solely of descriptions of past events, even when including within its ken economics and institutions, but will embrace a study of cultural life in its broadest significance. The time is not far distant when the discoveries of the ethnographer will enlarge the scope of history, so that this science will embrace all forms of culture, among all men, both low and high in development. Ethnology is destined to infuse into history a meaning more comprehensive than it has yet had and to bring into sharper relief the relation of cultural life and geographical surroundings.

Human thought, as expressed by material culture, language, and beliefs, is modified to a certain extent by survivals of past environments. In early conditions this modification was strong, but later, when man had obtained greater control over his surroundings, external conditions lost some of their power. The character of primitive habitations is perhaps more influenced by environment than any other product of man's intelligence, but even in them we find surviving traces of former conditions.¹ The effect which the adoption of caves as habitations has had on the construction of buildings within them illustrates this statement. Originally caves were sought out for protection from elements, but in the course of time, possibly from conservatism, man continued to construct buildings in caves and to live in caverns long after necessity for them had ceased. The fact that nothing of man's manufacture is more profoundly modified by environment than his habitation, gives to caves or cave-dwellings a great importance in the study of the interrelations of history and geography.

The reason that led man originally to seek caves for habitation was a desire for shelter from the elements, but not so much protec-

¹ The effect of migration and retention of cultural survivals of former environments should not be overlooked although as time passes it becomes more and more obscure.

tion for himself as for others—for his offspring. Caves were early used for the hiding away of food and secretion of other property, as sacred images and ceremonial paraphernalia, for burial places, and as chambers for the performance of sacred rites. Their use for habitation was secondary, the primary motive being mainly altruistic, the same as that which leads the insect, bird, and mammal to make their nests.

As one of the few crafts man shares with animals is the building habit, it is natural for us, on the very threshold of the subject, to consider the influence of environment on lower intelligences as expressed by insects, birds, mammals; or perhaps it might be better to say, the study of the habitations of lower animals should go hand in hand with those of natural man.¹ We are immediately informed that the bird acts not from reason but from inherited habit or instinct. The first swallows which built under the eaves of a house or in a chimney of the same surely had no inherited instinct to guide them. This choice was certainly not due to former teaching, in the site that has been inherited but to an independent use of mind which recognized the advantage of a new environmental condition. It does not seem unreasonable to suppose that the birds that first built their nests under overhanging cliffs did so for the same reason that men built in similar places. Both bird and man saw that the caves were advantageous for shelter and built accordingly.

The cave-swallow builds its nest of available material as stones, clay and twigs. I possess a photograph showing one of these animal cliff-dwellings which indicates how close a parallelism can be

¹ This great "untilled field of comparative psychology," as pointed out by a reviewer, in *The Athenaeum* (Aug. 20, 1910), of Dr H. C. McCook's *Ant Communities and how they are Governed*, "will be extended from the primitive human type to the conceptions of other animals, but zoologists must find the materials." Although somewhat foreign to my subject the following comment by Dr Cook on the discovery of a story in an ant's nest eight feet deep is instructive:

"Those who are curious in such comparisons might find grounds here for a striking parallel between the achievement of an ant three-eighths of an inch high (long) and of a man one hundred and seventy-six times as high (five and one-half feet). Were we to reckon on a proportionate rate of progress between the two on the basis of height, our man would have to be credited with a storied structure one thousand four hundred and eight feet deep."

traced in the choice of a site and material for a building by animals and man as determined by their environment—a most fascinating subject to which I can give only brief mention at this time. The outcome of the comparison is that there appears to be a general psychic law showing identity of thought among animals and men in the construction of buildings or nests where available material and geographical conditions are the same.

Life in caves passes naturally into one in permanent houses of stone or clay. If we follow Ratsel in his conclusion that "the germ of stone architecture" arose from "the habit of dwelling in caves widely spread in primitive times and not yet obsolete," then the geographical distribution of caves has largely determined the sites of monument development and consequently of civilization. The effect of stone buildings made by one generation on development of the culture in the next and subsequent generations is very considerable, and the perpetual existence of monuments is a continual stimulus acting on the mind to interest it in past history and create a pride in former achievements. It is self evident that a race, each generation of which builds houses of perishable material, leaves little evidence of its past history and whenever the creations of one generation fall into decay in the next there remains nothing to which tradition may point with pride. If the past adds nothing to the present a race progress is not possible. Stone habitations become monuments and endure, not only serving as an inspiration for new endeavor but also securing lasting models for future generations. It is on these accounts that the limits of artificial cave habitations are almost always the same as those of higher human culture, historic and prehistoric.¹

Caves showing evidences of habitations are widely distributed geographically. Beginning with China a belt of cave-dwellings extends across India to Asia Minor and Arabia following both shores of the Mediterranean, continuing into the Canary Islands, the West Indies, Mexico, North and South America. Wherever geological conditions furnish a rock that can readily be worked into suitable caves there are generally found ruins of stone buildings,

¹Higher culture without permanent habitations or sacred edifices is almost inconceivable.

and where these exist there we are almost sure to see other evidences of past culture.

Two lines of architectural evolution reach back to the cave as the original form: (1) growth of a building within a natural cave, and (2) evolution of a building from an artificial cave. While natural caves must theoretically have formed the earlier shelter, we find, when the character of the rock permits, that artificial caves were constructed almost contemporaneously with them.

The use of unmodified natural caverns for shelter cannot be considered at length at this time, but in passing it may be pointed out that, while not limited to any one geographical location or climatic condition, they are necessarily found under certain geological conditions. Existing historical, legendary, and archeological accounts¹ of human habitations in natural caves of Europe are very numerous, but no extensive literature exists on the natural cave-man of Asia, Africa, and America. The association of human remains with those of extinct animals in European caves carries the antiquity of man into late geological formations. The limited observations on New World caves rather than the poverty of the subject makes it difficult, almost impossible in fact, to institute an adequate comparison of the culture or relative age of the natural cave-man of America and Europe.

In order to show how little work has been done on this subject in America, let me call your attention to one of many examples. At the close of the fifteenth century when Columbus discovered America there were cave-dwellers in certain regions of the West Indies, which were mentioned in the writings of early historians. The people who inhabited the greater part of these islands were dwellers in the open and had attained a considerable cultural elevation as shown in the polished stone objects called "collars" and three-pointed idols or *zemis*. The germ of this culture came from South America. In addition there were settlements of Caribs who had migrated northward from South America along the Lesser Antilles as far as Vieques island and the eastern shore of Porto Rico. It would appear from history that there were at least three distinct stocks, indicating

¹ Wm. Boyd Dawkins. *Cave Hunting: Researches on the Evidence of Caves Respecting the Early Inhabitants of Europe*. London, 1874.

three kinds of culture, in the West Indies at the epoch of discovery. The first and most primitive of these three were the cave-dwellers, remnants of an aboriginal people once spread all over the West Indies, but at that time inhabiting the western ends of Cuba and Hayti. They were known to early writers as the Guanahatibibes,¹ and were said to have been low in cultural development, possessing a characteristic idiom, their livelihood being obtained by fishing, hunting, or gathering wild fruits or roots. These apparently had not yet become an agricultural people, and had no knowledge of how to prepare cassava from the poisonous root of the yuca.

The existence of this race of natural cave-dwellers in the West Indies has long been known through legends extant since the time of Columbus. Roman Pane, the oldest folk-lorist of the American Indians, in one of the legends of the natives of Hayti refers incidentally to their former life in caves—a legend which was no doubt founded on historical fact. It is known that some of the Haytian caves were inhabited by man at the discovery of the island, and we may infer that these troglodytes were survivals of an antecedent epoch, referred to in the legend, when the aborigines of the island were cave-dwellers.

While, as seen from the above remarks, evidence drawn from folk-lore supports history, the archeological verification has yet to be gathered. Our knowledge of the character of the West Indian cave-culture is fragmentary and can be greatly enlarged by systematic excavation of the caves of Cuba, Hayti, and Porto Rico. Skeletal remains which may be referred to the cave-men of Cuba have been investigated by several Cuban anthropologists, who have regarded them as among the oldest in America. A comparison of the culture of these cave-men with those of Europe would be very instructive but it is manifestly impossible considering our limited knowledge of the former. Here is an opportunity for the study of cave-men at our very door, practically within our domain, which

¹ In western Cuba: their province in Hayti was called Gaucarima. The structures called "cacimbas" in the Isle of Pines and elsewhere in western Cuba may have been made by the prehistoric cave-dwellers of Cuba. These cacimbas are large earthen jars, apparently fashioned and baked in place, filling a hole six feet deep, with rim level with the surface of the ground. Additional study is necessary to determine their age and use.

offers a most fascinating field rich with harvest to our historians, folk-lorists, and archeologists.¹

A comparison of artificial caves and buildings constructed in natural caverns in the Old and New Worlds is much easier to make than that of the natural caves of the two hemispheres on account of the abundant known material. Both America and the Old World have an extensive literature of artificial caves used for habitations or natural caves sheltering buildings of size. Historically speaking we have little information regarding the life of man in artificial caves or in buildings in natural caverns in America, but this lack may be supplemented by the contributions of archeology, and our knowledge may be enriched by a study of the folklore² of the Pueblo Indians.

In addition to legends capable of verification by archeology, the Hopi also have others less definite which, although vague, are still as worthy of belief as those dealing with the period of history, if taken symbolically. Pueblo legends all agree that the human race originated in an underworld and climbed to the surface, where it now dwells, through an opening which the Hopi call "the Sipapû." A comparative study of these stories among different pueblos reveals the fact that this emergence opening does not always have the same position, creating doubts as to the authenticity of the location of Sipapû and raising a suspicion that geographically it is not to be taken literally but varies with the clan or larger group. Moreover the legend, greatly obscured by esoteric and symbolic interpretation, may indicate a local prehistoric event.³ It is usual to interpret "the Sipapû" as the original orifice of emergence common to all members of the human race, but it is worth while to consider whether it does

¹ Mr J. N. B. Hewitt has also called my attention to the following legend on an old map by De l'Isle near what is now Williamsport, Pennsylvania: "les Tionontatecaga qui habitent dans des cavernes pour se defendre de la grande chaleur."

² The legends of the life of some of the Hopi clans in the cliff houses of the Navaho National Monument, possibly vague as to the exact site of these cliff dwellings, are as vivid to them as their life in any historic ruin like Awatobi. These legends do not always refer to historic times, but often indicate the individual cliff-dwelling once inhabited by specific clans, as those in the Chelly canyon, which comes well into the historic period although not recorded in historical documents.

³ Or the present conception of a universal Sipapû may have been a generalization from a purely local historical account of the passage of culture from the caves to the open.

not sometimes refer to the passage from a previous culture. If we interpret the underworld¹ to be a prehistoric underground habitation, we can bring several facts of archeology and ethnology to its support.

There can hardly be a doubt that the remote ancestor of the cliff-pueblo was an inhabitant of a natural cave, and that the construction of an artificial cave and a pit-dwelling was also early in time. As man developed into a mason² he outgrew the narrow bounds of a cavern and, erecting buildings in front of his artificial caves, relegated the latter to storage or ceremonial purposes, just as in certain places in Asia Minor caves are granaries and have houses in front of them which are inhabited.

Knowing as we do that early man in Europe inhabited natural caves the question naturally arises why there is a total absence in Europe of large villages like the great cliff-houses of Arizona and Colorado. This is partly due to the limited size of the caves, for there are no European caverns suitable or ample enough to contain large villages. The step from the cave-dwelling to the construction of stone buildings in the open was an early one and was probably brought about by overcrowding. After the population of the cave had outgrown its limits two remedies were possible for accommodation of the increase. Crowded out of caves by enlargement in numbers, man was forced either to build rooms in front of the caves he had excavated or, cutting free from the cliffs, to construct an independent house in the plain or on the mesa.

¹ The "pit-dwellings," or as they are sometimes designated "underground habitations," referred to throughout this lecture are allied to but not identical with cliff dwellings and pueblos. Cliff dwellings are of two kinds: cavate rooms or those artificially excavated in the walls of cliffs and cliff-houses, or cliff-pueblos, houses or pueblos with walls built in natural caves. There is of course no strict line of demarkation between these different types and some settlements are composites of two or more kinds of dwellings. The pit-dwellings belong to a distinct type of southwestern ruins, represented in cliff-dwellings and pueblos by the subterranean sacred room or kiva.

² The training of primitive man into a mason was rapid wherever rocks about him could be worked with rude implements. The excavation of caves led to stone buildings. No better illustration of the dependence of architecture on the character of rock can be found than by a comparison of the prehistoric monuments of Cuba and Yucatan. Easily worked rocks of the latter country made possible the magnificent temples that have been the wonder of archeologists.

It is not unlikely, also, that in some instances he first inhabited pit-dwellings or habitations under ground. Such simple dwellings as these were not unlike some ancient aboriginal habitations of California or the earth lodges in the plains east of the plateau region. If we regard the so-called cavate lodges and the pit-dwellings as primordial dwellings, much that is incomprehensible in cliff-dwelling architecture can be readily explained.

Although numerous examples of pit-dwellings in the Southwest may be mentioned, the Old Caves near Flagstaff, Arizona, are among the best representatives. A visitor on approaching one of these habitations first observes on top of an elevation broken down walls of one-storied rooms forming a cluster, the ground plan of which would not be unlike a checker board.¹ These walls, constructed of lava-blocks, gave to this cluster of rooms the appearance of a small one-storied pueblo, but on entering the enclosures one sees in the middle of each floor a vertical entrance through which the inhabitants descended to a subterranean chamber, excavated in the solid rock. This underground chamber was entered from lateral rooms by doorways which also had been excavated in the lava conglomerate. From the plastering on the walls of these rooms it is evident that they were not used simply for storage, but served for habitations and were true pit-dwellings.² Let us consider still another example of these early subterranean houses with vertical entrances inhabited by the aborigines of Arizona. Certain ruins on the Little Colorado have underground rooms that indicate even better than the Old Caves the character of pit-room culture antedating the free buildings called pueblos. Some of the best of these exist in considerable numbers in a cluster of ruins near the Black Falls of the Little Colorado. These rooms are underground, single, multiple, or arranged in rows, being generally found in the shelter of a low outcropping rock formation sometimes occurring at the base of a low cliff on top of which is a pueblo ruin. Their form is generally

¹ Similar walls forming an enclosure into which open the doorways of cave-dwellings are figured in a cut of Madeba, by Libbey and Hoskins, *The Jordan Valley and Petra*, Vol. I.

² I recognize in these pit-rooms the precursors of the subterranean kivas, the vertical entrance representing a hatchway.

round or they have rounded corners, one side being the cliff walls. A row of underground rooms of this type morphologically resembles a series of subterranean kivas. There is nothing to show that they were specialized for ceremonial purposes, but they are believed to belong to the type of subterranean dwelling called a "pit-room," of which the kiva is the modern survival.

Some of the Armenian cave-dwellings belong to that type of cavate house characterized by a vertical entrance. In the writings of Xenophon there is said to occur the following reference to these troglodytes visited by Polycrates and certain others of his command. "Their houses were underground with entrances like that of a well though they were spacious below. The entrances for the animals were dug out but the men descended by means of ladders. In these houses there were goats, cows, chickens, and the young of the same. The animals were fed on hay inside the houses which also held a store of wheat, barley, vegetables and barley-beer in great vessels."

As in certain Southwestern cavate houses some of the cave-villages of Asia Minor had a series of houses above ground which were occupied, and another series, subterranean in position, entered by tunnels, and advantageously situated for protection from foes. The use of the underground rooms as places of refuge, those in the open serving as habitations, may furnish a clue to the use of cavate rooms under or behind houses in prehistoric New Mexico and Arizona.

The Asiatic excavated rooms were used by their inhabitants for protection against Ibrahim Pasha, who with an Egyptian army in a campaign against Turkey came to a town of this character in Asia Minor. The people fled into their subterranean rooms, closing the entrance behind them by rolling great stones over the doorways,¹ so that the Egyptian soldiers could not force their way into these retreats. When the latter were sorely in need of water and lowered buckets to draw it up from the wells it is said the people underground cut the ropes, causing the soldiers to withdraw.

Doctor Ellsworth Huntington, in an interesting account of his

¹ The method of closing the doorway by rolling a great circular stone before it seems to have been common in the cave habitations of Asia Minor.

visit to certain Druse caves in Syria, published in *Harper's Magazine*, for April (1910), has shown how this was possible. It appears that these caves were safe retreats in time of danger, being in communication with houses above. He found in them remains of tanks from which water could be drawn by those in rooms above. It would not be possible to obtain water if there were hostile people in the caves below near the tanks.

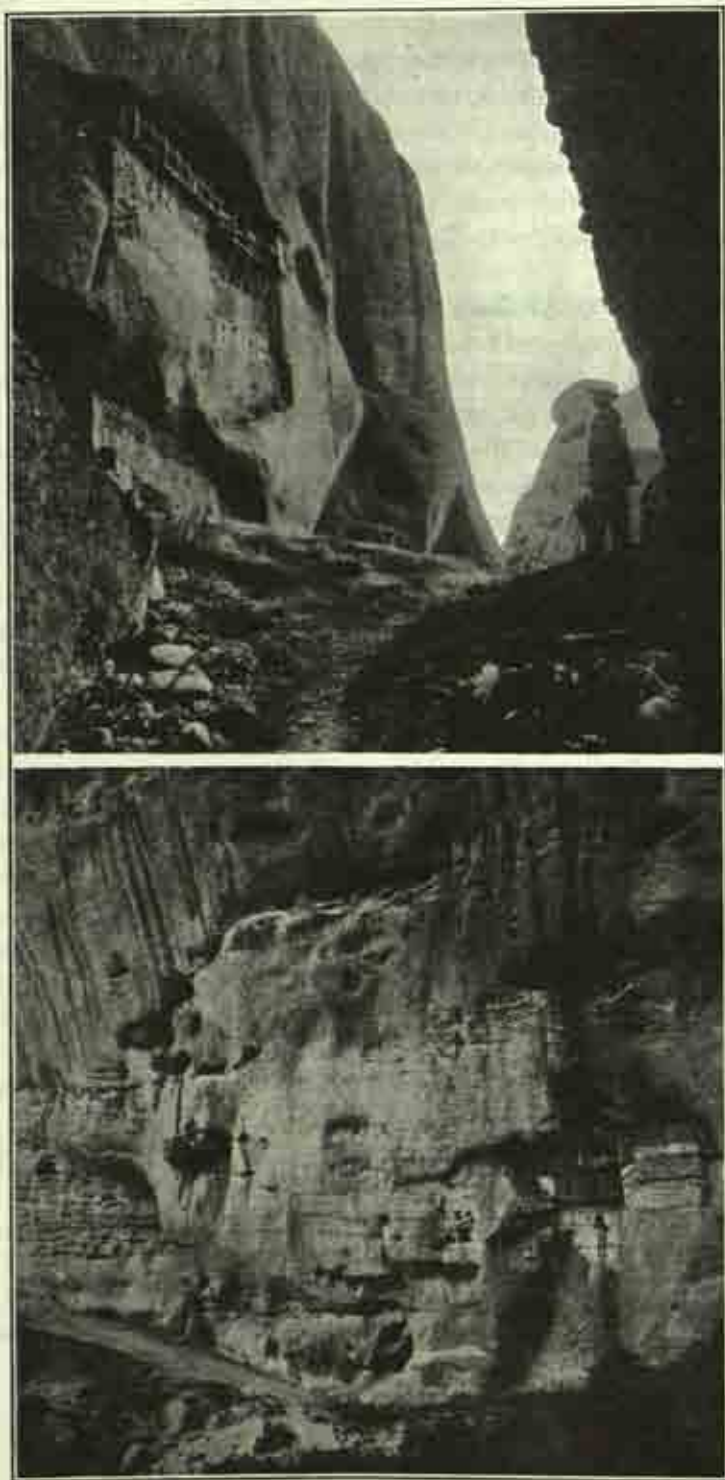
The most instructive *résumé* of the dwellings of the aborigines of North America has been written by Herr Sarfert,¹ who has considered many points of interest to the student of subterranean or cave habitations. It would seem from his studies that underground habitations had a wide distribution in the New World in prehistoric times, and that there was a line of such, interrupted at intervals, extending from the Aleutian islands along the west coast of North America into Central America. The relation of the underground ceremonial room in California and the kiva in the pueblo region is not the least of many interesting suggestions in Herr Sarfert's article.

Cavate habitations in cliffs on Oak Creek, a tributary of the Verde, Arizona, correspond with caves used by Guanches for ceremonies and burials in the Canaries. Many similar examples from the Old and New Worlds might have been chosen, some with buildings before them, others destitute of the same. In many instances these former habitations have become burial chambers, once deserted by the inhabitants; they were used later as catacombs for the dead. Instances of this secondary use can be found all the way from China to the southwestern part of the United States.

These artificial caves are not confined to Asia and America but are also abundant in Europe. Many are found in Germany,² in France along the River Loire, where the older cave rooms now serve for storage, and new, occupied dwellings have been erected in front of them. The caves of Dordogne, France, have been studied and their contents figured and described in the magnificent

¹Haus und Dorf bei den Eingeborenen Nordamerikas. *Archiv f. Anthrop.* xxv.

²See Lambert Kärmer. *Künstliche Höhlen aus Alter Zeit*, Wien, 1903. The examples described are from Germany and America.



MONASTIC CLIFF-DWELLINGS, METEORA

work, *Reliquiae Aquitanicae* by Mm. Lartet and Cristy. The Aquitani of Cæsar's time lived in caves, and the caverns of Dordogne were inhabited in the Middle Ages. According to M. Desnoyers, writes Boyd Dawkins, "In France there are at the present time whole villages including the church to be found in the rocks which are merely caves modified, extended, and altered by the hand of man."

The so-called Heidenlöcher, Pagan-holes, at Goldback overlooking Lake Constance in South Germany may be taken as typical examples of certain European cave-dwellings excavated in the loess formation, recalling those in tufa along the Verde in Arizona. My attention was first called to these interesting caves by H. von Bayer who has given me an English translation from a German account published in the *Ueberlinger Badblatt* (nos. 6 and 7, Aug. 6, 22, 1910) and a short notice published in 1827 in Gustav Schwab's, *Der Bodensee nebst dem Rheinthale*. As these descriptions are too long to quote in my address I have introduced a condensed account embodying the main features of the two. These caves are excavated in a cliff rising perpendicular from the lake about 7 meters above the water level and were formerly approached by ladders from a narrow path that once skirted the shore.

"The Heidenlöcher formerly consisted of a series of rooms, chambers, cellars and niches connected with each other by hallways and stairs extending for a distance of almost a kilometer . . . The single rooms are of different sizes and shapes, some have groined arches or at least the beginning of them with the springers; others have flat ceilings, some have columns, pilasters, architraves and cornices; others are simple and without ornamentation. In nearly all of them, however, are to be found stone benches, niches, window and door openings with grooves cut out to receive the frames and even the remains of wooden dowels. In some places in the cliff are to be seen niches and rifts which no doubt are remains of a former cave-dwelling."

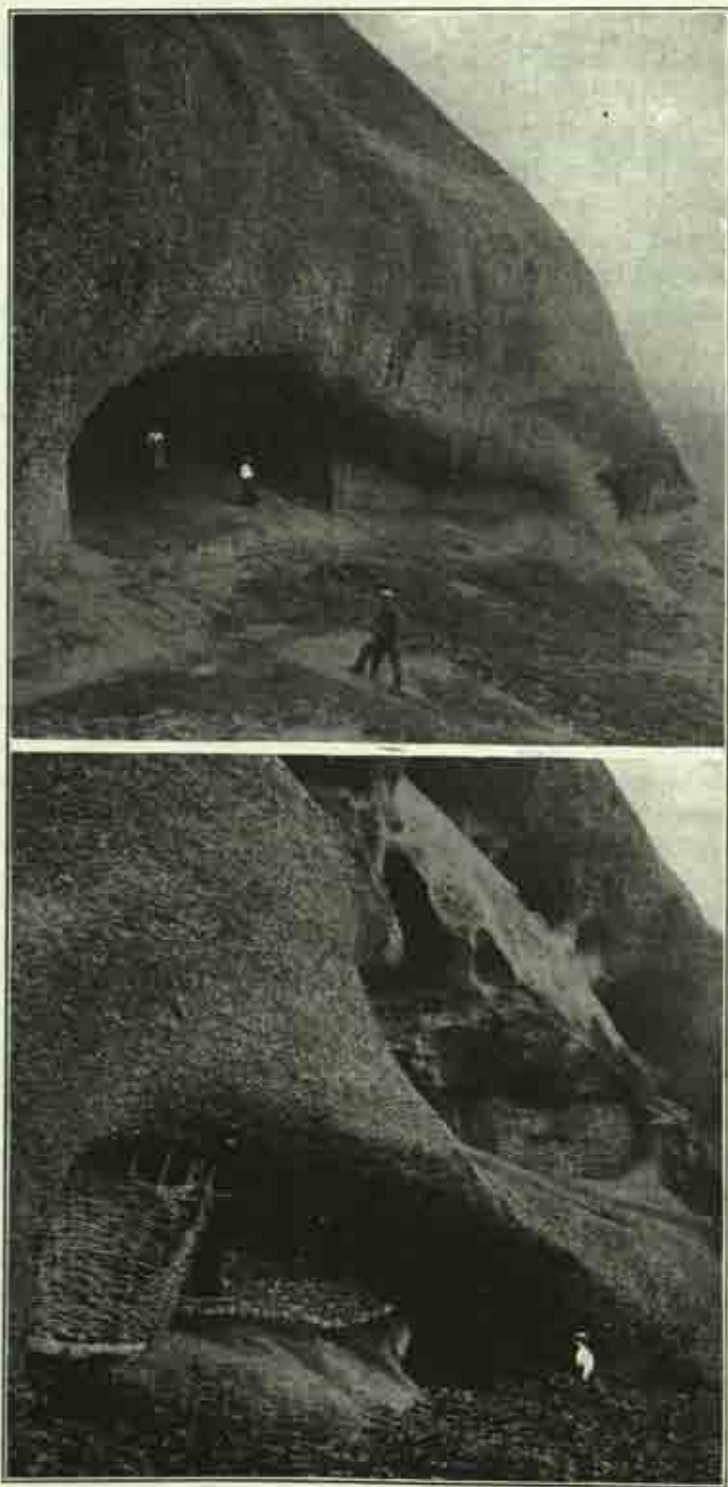
The present approach is by stone steps along the face of the cliff, the former stairs being badly disintegrated. There are now seven caves, a large number having been destroyed in 1846-48 when a road was constructed between Ueberlingen and Ludwigshafen. The first cave, entered by an arched doorway, is 3 meters high and has niches near the entrance. The second cave has two

windows open and a chimney. A niche in this opens into a third cave 1.8 meters high and 2 meters wide. The fourth cave, over 2 meters high, has a groined ceiling and stone bench at the opening. On a lower level lies a cave called "the chapel" from which one descends 7 steps to a path which bifurcates, one branch leading to the open, the other to a fifth cave which has two stone columns in the middle, supporting gothic arches. Two additional caves with niches and benches are extended a few steps along the level of the meadow lands.

"Regarding the origin and purpose of these Heidenlöcher there is not the least historical information. No one knows who built them or lived in them, how old they are nor the purpose for which they were built. No chronicle nor historical record contains a single mention of them. Nothing has ever been found in the caves themselves which would aid in explaining them. In the family Beurer at Brunnensbach there figured for centuries as an heirloom a rare stone image which was found in the Heidenlöcher—a large piece of quartz, in form similar to a sitting man. This was perhaps of Celtic origin, for similar figures are frequently found in Gaelic graves; or, as others think, it may have represented 'God-father with the globe,' pointing to the former use of the Heidenlöcher by Christians. . . . The results of the various theories may be summed up as follows: Our Heidenlöcher were originally but few, simply caves dug in the rock, they were in time enlarged; multiplied, improved and embellished, and lastly treated with a sense of art: the small and simple ones are the oldest; they were the dwellings of the inhabitants of our region, first of the Celts, then the Suevians, the Romans and lastly the Allemanni; the name Heidenlöcher must be ascribed to the Romans."

The modern history of these heathen caves is interesting. "As early as 1760 the city council of Ueberlingen ordered the destruction of the major portion of these caves because of their general use by low tramps and vagabonds.

"When in 1846 to 1848 the new road was built between Ueberlingen and Ludwigshafer, a large portion of the Heidenlöcher cut in the cliff bordering on the lake was sacrificed. There are now only seven caves left of the former large number; they are visited annually by many tourists and are well cared for by the city as interesting relics of ancient times." Joseph V. Scheffel has chosen these caves as scenes for some of the incidents of *Ekkehard*, an interesting story laid in the tenth century.



CAVES WITH WICKER GRANARIES

We must not overlook in our studies underground dwellings in England or such structures as the chambered mound at New Grange in Ireland, which may be described as roofed subterranean chambers, counterparts of which are found in other parts of the world. Rooms of this kind somewhat different in structure appear in the megalithic underground habitations, "weems" or "Picts' houses" of Scotland, and the Hebrides, the pit-dwellings of Jesso, the subterranean rooms of the California Indians, and the "pit-rooms" in southern Arizona. Spain has many artificial caves that were once inhabited and those in full sight of the Alhambra in Grenada are still used by Spanish Gypsies. Some of the Andalusian caves figured and described by Sr. Gongora, in his valuable memoir, *Antigüedades Prehistoricas de Andalucia*, closely resemble those of the southwestern part of the United States. Many accounts might be quoted in which the Etruscan caves, largely mortuary, are described. The remains found in caves along the Riviera, as those near Montone, have been described by several archeologists.

To enumerate all varieties of artificial caves, pit-dwellings, and related forms of cliff dwellings would take me many hours—even a list of geographical locations where they occur would be of considerable size. I should not omit to mention the monastic establishments and chapels of the Crimea built in caves, and those of the rugged Thessalian mountains, views of which appear in plates xxiv and xxv.

Among the most interesting forms of Crimean troglodytic dwellings are those described by Prof. G. F. Wright in *Records of the Past* (vol. VI, part 1) near Bakhtci-Sarai, the crypts of Katchikalen and the "Valley of Jehoshaphat" (pl. xxvi). At the last mentioned locality there is a "promontory with precipitous faces on either side several hundred feet in height. The surface is covered by massive ancient ruins, while many passages lead down to extensive excavations with the windows open out upon the face of the precipice below."

Fergusson reports more than a thousand caves of architectural importance in the western part of India, and the cave-temples of Ellora may be regarded as the culmination of Braminic cave-architecture. There is a remarkable locality for the study of cave-

dwelling, called "The Thousand Caves," in the mountains of Koko-Nor in Cambodia. The loess formation in certain parts of China is fairly riddled with artificial habitations. Mr F. B. Wright has called my attention to caves of this kind at Shi-wan-tse, a place visited by him outside the Great Wall.

There might also be called to your mind the rooms inhabited by Greek priests, which have been excavated in large boulders, and inhabited natural caves in the Caucasus mountains; in some cases the cave mouth is filled in with an artificial wall, made of stones, reeds, or bamboo. I cannot do more than mention the cliff buildings of this kind reported from our possessions, the Philippines.

Certain climatic resemblances, between the oases of the Sahara, in northern Africa, and the deserts of the Southwest have brought about remarkable similarities in habitations. We have in the Sahara region extending from Egypt through Tunis, Tripoli, and Morocco to the west coast of Africa, a region of subterranean dwellings reproducing in appearances those common to the arid belt of the New World. It is instructive to note the similarity of these ancient Berber homes and certain Pueblo dwellings. It is perhaps more than a coincidence that we have coexisting among the former, as with the latter, two architectural forms, one above ground, the other below, the one a cliff and pit-dwelling, the other an independent village.

The character of Tunisian Berber towns can best be illustrated by a typical pit-habitation and town and for this comparison I have chosen Matmata and Medinine. The village of Matmata (Fig. 39), near Gabes, is certainly one of the most extraordinary underground settlements yet described.¹ As the visitor approaches it, we are told, he sees no sign of a village but only a number of cistern-like depressions in the earth, each measuring about 30 feet in diameter. But standing on the edge of one of these depressions and looking over the side into it what a strange sight meets his eyes. Deep in these sunken areas he sees the inhabitants, dogs, camels, and human beings. This depression is a breathing place or sunken plaza into which rooms open through lateral passageways, which are exca-

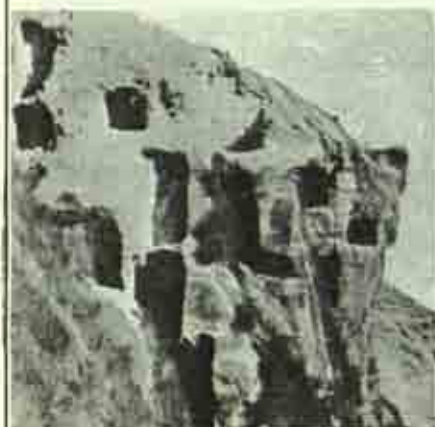
¹Die Troglodyten des Matmata, von Paul Traeger. *Zeit. für Ethnologie*, 1906, p. 100.



a



f



b



c



d



e

Photographs from "Records of the Past."

a-c. CRIMEAN CLIFF-DWELLINGS; f. ROCK-TOMB, AMASIA, ASIA MINOR.

ventions in the walls of the depression. Some of these chambers are adorned with rugs and furniture. The sunken plaza is apparently the living place, entrance to it being by means of a subterranean tunnel, slanting upward, large enough for passage of man or beast. The troglodytic people which inhabit these subterranean chambers now number 1200, and there is historical evidence that they have lived in these sunken pits for centuries. The court or



Fig. 30.—Matmata, Southern Tunis, Africa.

sunken area into which the different rooms open is a common gathering place for the inhabitants, in which most of the household work is performed, the excavated chambers being often arranged one above another, serving as the sleeping rooms.

There are several of these troglodytic towns in the arid deserts of Tunis, some of them wholly below the earth's surface while others are partly above ground. The reasons man has resorted to this subterranean life in this region are to escape from the torrid sun that fiercely beats down on the parched desert, and to obtain shelter from the rain and sand storms. A remarkable similarity between pueblos on the one side and another type of Tunisian town like Medinine on the other, is worthy of mention. Medinine, regarded by Hamy¹ as the Mapalia of Sallust, and probably the same

¹ *La Tunisie au début du XX^e Siècle*, Paris, 1904.

as the troglodytic town mentioned by Strabo, according to Traeger, is composed of long, narrow rows of rooms destitute of windows, their doorways looking out on a common court. The rooms of this village, as shown by the doors, are built one above another, facing in the same general direction.

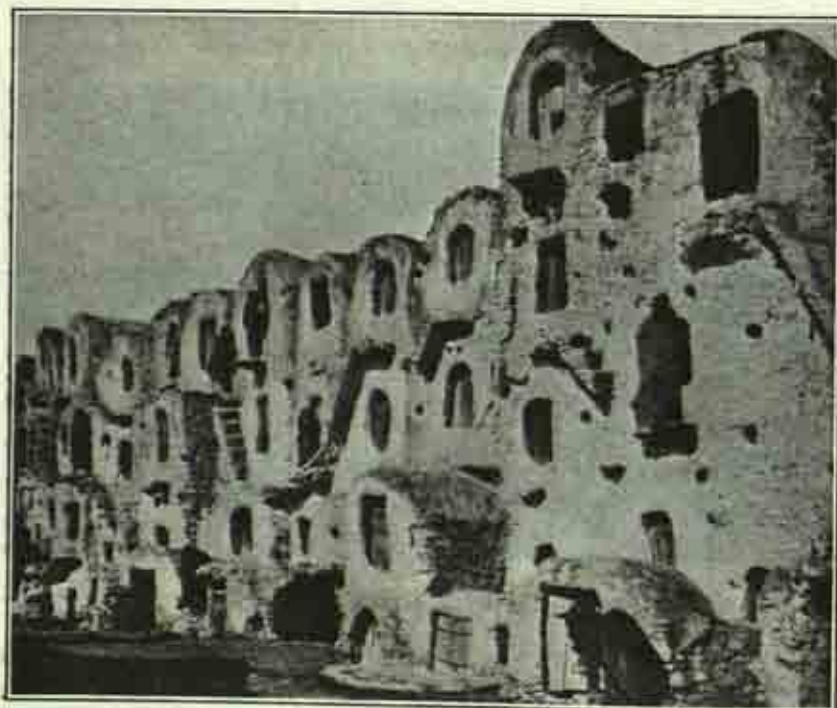


Fig. 40.—Medinine, Southern Tunis, Africa.

A comparison of the accompanying view of Medinine (fig. 40) and the Hopi pueblo, Oraibi, cannot fail to reveal to the observer general likenesses with special differences. The buildings are four or five stories high with lateral doorways at different levels. Of minor resemblances, visible in the figure, may be mentioned the steps, stairs, or other footrests by which one ascends from the ground to the upper rooms. The row of these last, seen near the standing human figure about half way up the side of the building, closely recalls similar projecting stones found in some of the cliff-dwellings in Arizona, Colorado, and New Mexico.

Traeger and Bruun have pointed out that a Saharan town like Medinine is architecturally an imitation in relief of the subterranean village, Matmata, one being above, the other underground. In the southwest there is a similar relation of the cave-dwelling and the pueblo built in the open.

The relative age of Matmata and Medinine, as representing the African troglodyte and a village in the open, may aid us in determining the relative age of the cliff-houses or rooms in artificial caves and the pueblos. Traeger regards the dwellings underground as constituting the older or the original form, and it would seem that the same is also true in the New World where there is evidence that the cavate rooms are older than the pueblos. The existence of several-storied dwellings in the Sahara and in our Southwest are explained as follows. The limited capacity of the caves in America had so crowded together the inhabitants that they were compelled to construct rooms one above another, a condition of congestion which survives in the pueblo. The multiple-storied Berber villages in the open have a pueblo form for the same reason.

The Tunisian pueblos are inhabited by the Berbers, an aboriginal people of North Africa, whose ancestors, there is every reason to believe, lived in similar habitations in the earliest historic times. In fact it is not impossible that the very people now inhabiting them are descendants of those who lived there in the time of Strabo or Sallust. It would appear that a residence for centuries in this peculiar form of dwelling may have led to certain habits of life which they share with our pueblos. It is foreign to the purpose of my address to enter into any intimate comparison of the culture of the sedentary prehistoric aborigines of the desert region of Africa with those of our Southwest, but it may not be out of place to state *en passant*, that there are deep-seated similarities in their customs, arts, and institutions, which are heritages of a cave life. Instructive parallels, for instance, might be detected in house ownership, matriarchal rights, and clan descent between the two. It would be strange if their ideas of building were not alike.

Today, as of old, the Berber tribes are distinct from the nomads and are reputed to live in stone-built, hill villages with two-storied

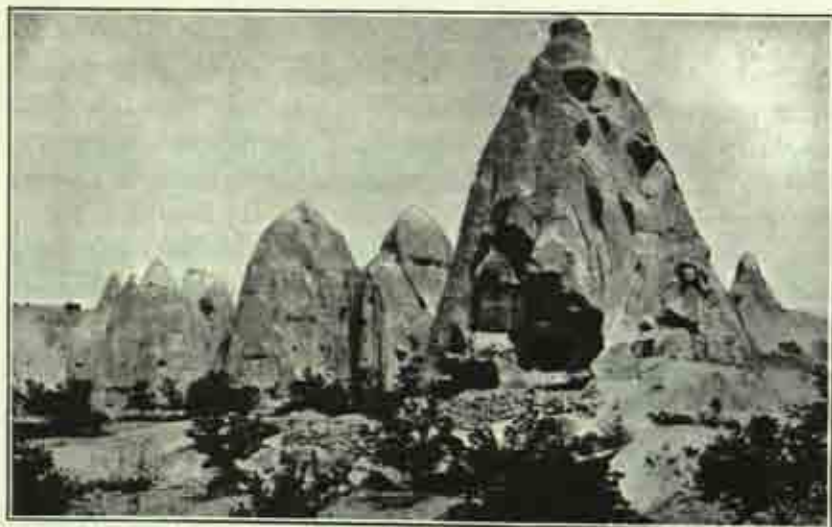
houses,¹ in marked contrast to the nomadic Arabs, who dwell in towns of tents. According to Ratzel in villages of the western Atlas "the greater part of the upper story consists of a sort of rough veranda ill suited to the severe climate of that mountain country. . . . The natives pass the winter in cellar-like vaults beneath the houses; and for the sake partly of warmth, partly of defense, the houses are built so close together that they often produce the impression of a village." This applies also to certain prehistoric Arizona house builders. It is not too great a stretch of the imagination to fancy that the former inhabitants of the Old Caves in the black lava hills that surround the San Francisco mountains near Flagstaff, and those² in the neighborhood of the Black Falls, Arizona, may also, like the Berbers of the Atlas mountains in Morocco, have retired in winter for warmth to their "cellar like vaults beneath their houses." They likewise built close together, partly for warmth, partly for defense.

But cliff dwellings in the Old and New Worlds are not always limited to arid climates although they are elsewhere used for warmth, or retreats from cold wintry blasts. The Eskimo villages at King island, in the Aleutians, is a noteworthy example of cliff dwellings overlooking the sea. This settlement, consisting of 40 dwellings, is literally lashed by cords to the side of a precipitous cliff, each habitation consisting of two chambers, an inner, partially excavated, and an outer constructed of poles or drift wood, the two communicating by a tunnel several feet in length. In the summer the hardy fishermen who inhabit this village live in the outer rooms which are little more than verandas but in winter they withdraw to the excavated rooms for protection from the cold sea breezes.

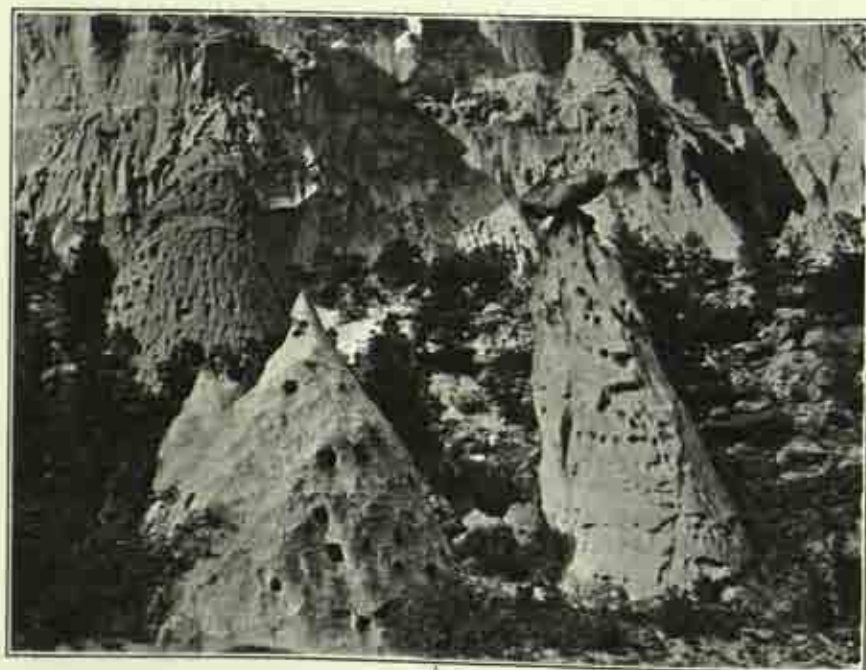
The student of archeology of our Pueblo region has reason to congratulate himself on being able to interpret both major and minor

¹ The upper story of a Kabyle village is ordinarily added after the marriage of a son.

² The Navaho call the Hopi, whose ancestors according to legends probably lived in these ruins, the *Ayahkini*, people of (the kiva or) under-ground houses. (See the Franciscan Fathers of St. Michael, *An Ethnologic Dictionary of the Navaho Language*, p. 135. This name is especially applied to Walpi.) When this name was given them, before the present Walpi was built, the ancestors of the predominating clans of the Hopi may have been living in underground houses at Black Falls or elsewhere.



a.



b.

CAVE DWELLINGS

a. Cone-dwelling, Maasica, Cappadocia. Photograph from "Records of the Past." b. Cone-dwelling, Otowi Canyon, New Mexico. From Bull. 35, B. A. E., Photograph by Cuykendall.

antiquities by ethnological data. It is a great help when Pueblo priests, descendants of the ancients, can serve as mentors in archeological research. The same may also be said of the archeologist who attempts a study of the past culture of the cave-men of Morocco and Algiers, always considered in the greater perspective of time. Unfortunately the archeology of the Berber region, prior to acculturation and influx of foreign tribes, is almost unknown. A knowledge of the cave-life of northern Africa, reaching as it does so far back in time, ought to aid us in comparison with more modern American cliff-dwellings.

It rarely happens that so close a likeness between cave-dwellings of the two hemispheres can be pointed out as in those found in Cappadocia and New Mexico. Perhaps the most striking types for comparison are the so-called "cone dwellings." None of the various cavate habitations of the Old World are more suggestive to the student of American cliff houses than those of the volcanic area west and southwest of Mt Argæus and Cæsarea¹ Mazaca, overlooking the Huyler and the valley of the Geureme in Cappadocia (pl. XXVII, *a*). Many, perhaps the majority, of these were the works of Christian monks dating from the time of St. Basil.

Many travelers have commented on resemblances in the geology of Syria, Palestine, and the arid regions of our Southwest. In some parts of Asia Minor we find the geological formations of Arizona so closely reproduced that one is amazed at the similarities. In one as in the other there are regions of volcanic tufa eroded into fantastic shapes. We should expect to find in countries, the geological features of which resemble each other so closely, a similarity in human habitations.

This resemblance is evident in the cone dwellings near Martchan and those of the Otowi, New Mexico (pl. XXVII, *b*). These cones are geologically considered the last stages in the erosion of tufaceous cliffs and as would be expected we find associated with them all stages from the massive wall to a conical structure sometimes capped with the harder lava rock which has preserved it. The whole region in the

¹ Cæsarea was the home of Basil, the founder of the Rule of St. Basil first accepted in Cappadocia, as far back as the 4th century, but others date back to a much earlier period.

neighborhood is volcanic in origin, and consists of a thick layer of tufa overlaid with lava which is comparatively thin. This tufa can be easily worked with primitive implements as stones or sticks; with a little patience chambers of any size could be excavated in it. Although some of the Asiatic excavations are 25 feet long by 13 feet wide, they might be made in a single month by one industrious workman.

In the past centuries the tufa has been eroded into deep canyons lined by cones often tipped by a lava cap 300 feet above the level of the canyon. In places the sides of these cones have been eroded, so as to expose the chambers in their interiors that are now used for drying grapes or other fruits. Ingress is generally by means of parallel holes arranged in rows which, when the sides have been worn away, are no longer visible. The rooms are commonly small, a fact that led the older writers on the troglodytes to speak of them as a dwarfish race, from which arose the supposition that the ancients knew of the race of pygmies in Africa. This supposition, that the cave dwellers are pygmies,¹ is world-wide in distribution, always due to the same cause—the small size of the excavated rooms. Thus, although many people believe that the former inhabitants of the cliff dwellings of Arizona were pygmies, as every tyro knows, skeletons that occur in them do not support this theory.

On entering one of these cone-dwellings of Cappadocia we find ourselves in a spacious chamber with shelves or niches excavated in the solid stone of the walls. The stairways resemble round tunnels through which one ascends to an upper story through holes like those lateral openings by which one enters the room. The floors separating the upper from the lower stories were usually thick enough to hold the weight that might rest on them, but occasionally these floors have given way and fallen to the floor below, thus

¹ The most ancient sedentary people of New Mexico, Arizona, and Colorado which preceded the Pueblos lived in caves or pit-rooms and practiced cremation. Their culture center was in the neighborhood of the Rio Grande. Another stock which also cremated their dead lived along the Gila and its tributaries. In early prehistoric times the Little Colorado valley from Zuni to the Great Colorado, including Hopi, was practically uninhabited by sedentary people. Later it was peopled by colonists from these two cultural centers, possibly a race largely composed of extra-Pueblo peoples that did not cremate the dead.

enlarging both rooms and forming a lofty chamber. In one instance nine stories were counted, but generally there are one, two, or four stories, their position appearing on the outside as small windows or peep-holes.

Many of the cave dwellers of Cappadocia have in front of the excavated rooms a portico later in construction than the room as indicated by Greek or Roman arches and columns. In the interior occur also evidences of later occupation showing Christian origin or Byzantine culture. The customs of the natives living near the caves of this region differ slightly from those of an ordinary Berber village.¹

I ask your permission to depart a little from the trend of my address and to consider the antiquity of these Cappadocian cave-dwellings, many of which are no doubt comparatively modern monastic dwellings though others reach back to a remote antiquity. Sayce regards Cappadocia as the original home of the Hittites, considering that in the hieroglyphy of this ancient people "cones are used as ideographs for king and country." If this be true the cone dwellings of Cappadocia were known and perhaps inhabited at the epoch of Hittite supremacy or about 1900 B. C. Although these caves were probably inhabited before this remote time no one has assigned them an older date.

Diodorus, Strabo, and other early historians or geographers of antiquity have embodied in their writings an account of the troglodytes living on the coast of the Red Sea written by Agatharcides about 250 B. C. This account is instructive as perhaps the oldest known historic record of the culture of cave-dwellers. These troglodytes are described as a pastoral people, governed by chiefs who fought valiantly for their farms. "They made use of stone implements, spears, and arrows. Women always finally parted the combatants for their laws forbade a troglodyte to strike a woman. Their food consisted of meat of their herd, milk, and blood and of bones

¹For this material I am partly indebted to an instructive article by Professor J. R. S. Sterrett in the *Century Magazine* for May, 1900, from which the statements here made are quoted. There is considerable general literature on the cave-dwellings of Cappadocia, one of the most accessible accounts being that in *Records of the Past*.

which were crushed and mixed with meat so as to form a kind of hash which was wrapped in raw untanned skins and roasted. Butchers were regarded as unclean persons. They slaughtered only old and sickly animals for food. They did not regard human beings as their ancestors but looked upon the cattle and sheep which furnished them food as their parents. They went nude or dressed in skins. Those who were too old to work committed suicide by hanging themselves by the neck to the tails of wild bulls, who dragged them to death. Cripples and those afflicted with incurable diseases were put to death. Herodotus says of the Ethiopian troglodytes that they were swift runners, fed on serpents and lizards, and had no real language but screeched like bats or twittered like birds."¹

The highest form of cliff habitation in the New World is the cliff-pueblo which is practically a village built in a large natural cave. When the cliff-dwellers of Colorado had arrived at such perfection in masonry that they could construct a village like the Cliff Palace of the Mesa Verde National Park they had progressed far beyond the primitive cave-house. This was the highest and most characteristic American form of stone cliff-dwelling north of Mexico and its counterpart is not known in the Old World.

There are true cliff houses of this type in Asia as well as in America. The examples which have been chosen for illustration of this point are cliff-dwellings situated in Shansi the northern province of China (pl. xxviii, a). The cliff-temple of the Mienshan mountains, one of many in that region, lies in a great mountain cave which reminded Boerschmann² of the "Cave of Winds" behind Niagara Falls. Although there is no architectural resemblance between this temple and a cliff-dwelling in Arizona (pl. xxviii b), both are constructed under an over-

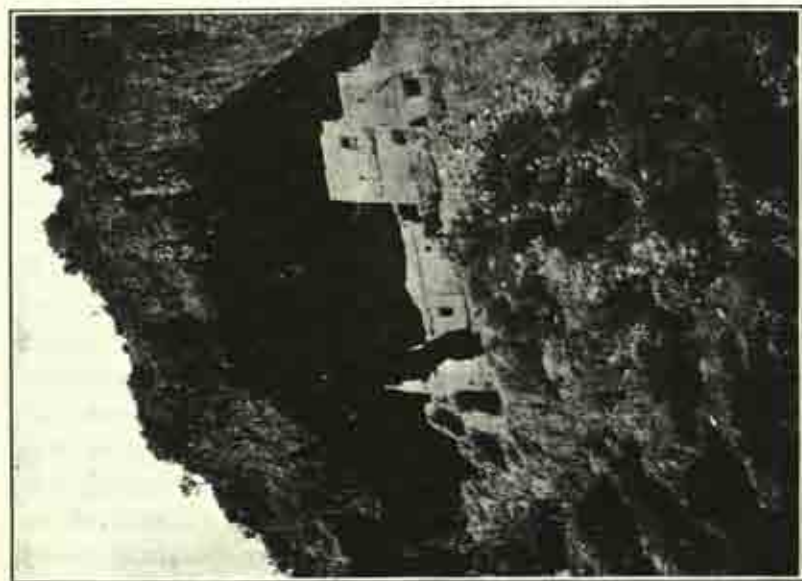
¹It is instructive to note the evidences of totemism and matriarchal descent that crop out in the above account. If we regard the Berbers or Tibbus as the lineal descendants of the cliff-dwellers of North Africa, and the pueblos as living representatives of American cliff-dwellers, several other common characteristics can be traced to a common influence.

Dawkins says that "Dr. Livingstone alludes in his recent letters to the vast caves of Central Africa, which offer refuge to whole tribes with their cattle and household stuff."

²Ernst Boerschmann, *Architektur und Kulturstudien in China*, *Zeit. f. Ethnol.* 42, J. 3. 4. 1910. I am indebted to Herr Boerschmann for the use of his photograph of this temple.



a



b

CLIFF DWELLINGS

a, Chinese Cliff-temple in the Mienshan mountains, Shanai province. b, Cliff-dwelling, near Roosevelt Dam, Arizona.

hanging cliff and it is interesting to note that the country in which both occur is semi-arid. A necessity for shelter is not so evident in the Chinese cliff-houses as in Colorado, but the same thought is apparent in the choice of the sites of these cliff-houses. They show that in localities thousands of miles apart, where geological conditions favor the custom of constructing villages in natural caverns, there these structures have been found. It must be inferred, however, that, aside from the site occupied, the architectural features of the two are unlike although characteristic. The cliff-temples in the Shansi are thoroughly Chinese, the Colorado cliff dwellings are aboriginal American, a diversity pointing to an influence to which the cave is secondary, to some power which is stronger than the external influence in its effect on the forms of cliff-dwellings. While this power exerts itself strongly on the highest, it is not as potent on the lowest. The excavated caves of lower cultures in regions widely separated show closer resemblances than those made by more civilized men. The simpler the cultural life the closer its resemblance in different regions of the globe where environment is identical.

Another secondary use for caves which connects them with habitations and is found on both continents dating back to early times is their adoption for mortuary purposes. The cave originally built for a habitation in course of time is deserted by the living and becomes a burial place just as the subterranean cavern becomes a catacomb. This secondary use is connected with its adoption as a resort for priests, who would withdraw from the world for ceremonial or other reasons. The custom of burial in caves once established led to the construction of caves *de novo* for tombs and cave shrines, possibly temples, which latter are made difficult of access and isolated to add to their mysterious character. Ancestor worship and fear of the dead intensifies a feeling of awe, and other men are unwilling to enter caves which were once inhabited and now contain the dead.

Of many subjects connected with a comparative study of cave-dwellings in the Old and New Worlds a comparison of burial places and tombs of the two continents parallel with that of habitations

is one of the most instructive, but a consideration of this subject would manifestly enlarge my address to undue proportions.

Although examples of prehistoric tunnelling occur in several localities in the New World none of these can compare in extent with the subterranean passages of Syracuse in Sicily.

As in the Old World, so in the New, the cave is a resort for the priest who remains there to intercede with supernatural beings. As a place of burial it is sacred and in it at times are kept the sacred images and paraphernalia of worship. A fear of the cave due to superstition is not wholly confined to the Old World but is also found in the New. Neither Navaho nor Ute, successors of the cliff-house people, would enter the cliff-dwellings in early times before white men took the lead. Such an act would, they believed, bring direful ills as blindness or even death to any one who ventured within these old habitations.

As the cave life is probably older in the Old World than in the New so the cave dwelling of that continent is the most highly developed architecturally. Many of the rock temples of Egypt,—as the far famed rock-temple of Abu-simbel,—China, and India¹ are among the highest known examples of man's skill and expertness in rock cutting. Of all these none surpasses in interest and beauty the ancient far-famed cliff city of the Syrian deserts, called Petra.

Situated not far from an old caravan route across the desert from Damascus to Mecca and protected from nomadic marauders by its marvelous position, Petra has been occupied successively from most ancient times by Edomites, Phoenicians, Egyptians, and Romans, all of whom have left examples of their art in its rock-hewn temples and amphitheatres, shrines, and house walls. After passing through a narrow defile called the Sik whose perpendicular walls tower above on each side a visitor suddenly beholds the magnificent "Treasury of Ptolemy" cut on the side of the cliff. This beautiful temple, empty because without cave behind it, is but the beginning of a series of façades covering the high cliffs in the enlargement of the canyon at the base of which lies in ruins the fallen walls of buildings long ago deserted. As one studies

¹Emil Schlagintweit, *Indien in Wort und Bild*, Leipzig, 1890. Ferguson and Burgess, *The Cave Temples of India*. London, 1888.

this greatest of all cliff cities¹ built by human hands in the variegated rocks of a Syrian desert he realizes the height cliff dwelling architecture long ago reached in the Old World, as a protection from foes by isolation. This ruin with all its wealth and beauty is connected with the desert and an arid climate, the same conditions which characterize its humble representatives in the New World.

I have sought for some explanation of the fact that the cliff-dwellings and pueblos built in caverns are confined to our Southwest and northern Mexico, and to the arid belt of Asia, Europe, and Africa. Why, for instance, is the distribution so circumscribed especially when we find evidences that man elsewhere, as in the West Indies, once lived in a previous stage in natural caverns. I am inclined to recognize here the most striking instance of the influence of environment and geological conditions. Nowhere else were there caves capacious enough, open to the air, and in many other ways suitable for the erection of dwellings. Other caverns are deeper, the limestone caves of the Alleghanies are more extensive, some of those of the West Indies as inaccessible, but the majority have narrow entrances and are otherwise unfitted for the development of cave dwellings.

A study of the cliff-dwellings of the Old and New Worlds while showing, on the one hand, that surroundings have exerted marked influences in history, reveals on the other the weakness of the position that human history is solely a product of environment. If we were dealing with organic structures alone and the mind of man were wholly subservient to them, cave-men throughout the world would have a greater uniformity in culture, but there is another factor in the case, there is the human mind and will with its powers of overcoming environment, and there is in man a strong desire for sociological and therefore institutional development. Man's mind, especially in the higher stages, is not altogether plastic to conditions; the desire to live in families, tribes, and other groupings, is strong enough to offset climate and physical conditions or to modify their

¹ Alois Musil, *Arabia Petraea*, Wien, 1907. Gustav Dalman Hermann, *Petra und seine Felsheiligtümer*, Leipzig, 1908. Wm. Libbey, Jr. and Franklin E. Hoskins, *The Jordan Valley and Petra*, New York, 1905. Also a popular account by the latter in the *Geographical Magazine*. See also *Scientific American*, 1909, *et alii*.

influences as man wishes. Animals also have gregarious instincts but these have not overcome environmental influence. Primitive man is also more or less subservient to it but civilized man rises above external conditions, creating for himself sociologic and institutional laws independent of his surroundings.

It is evident that while cave life has exerted a marked influence on natural man in the creation of the monumental habit of building and thus led to higher civilization, this habit is only one influence acting on human culture history. The higher culture of man is more complex and due to more complicated influences than this would imply. History is the result of external environment, geological and climatic, but this cause is not the only influence acting on man's mind through the centuries. Whether we approach our subject from the historical, the cultural, or the geographical side we can not overlook the psychic or mind element in culture. It is instructive to see how in different regions of the earth natural man has been similarly influenced by like environment in constructing habitations, that limited influence from its nature is not lasting although in a measure hereditary but it will ultimately be powerless. Similarities of cave-dwellings in widely separated geographical localities mean that the human mind in early conditions is practically the same everywhere, a principle that has the support of psychology. In later conditions the mind of the individual, while not necessarily superior to that of earlier times, enjoys the influence of accumulated survivals or the race inheritance of centuries of thought of other minds called culture.

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THE URAN: A NEW SOUTH AMERICAN LINGUISTIC STOCK

By ALEXANDER F. CHAMBERLAIN

WHEN the late Dr Daniel G. Brinton published *The American Race* (N. Y., 1891), he made the following statement (p. 221):

"The Puquinas are also known under the names Urus or Uros, Hunos and Ochozomas. They formerly lived on the islands and shores of Lake Titicaca, in the neighborhood of Pucarini, and in several villages of the diocese of Lima. Oliva avers that some of them were found on the coast near Lambayeque. If this is correct, they had doubtless been transported there by either the Incas or the Spanish authorities. They are uniformly spoken of as low in culture, shy of strangers and dull in intelligence."

This identification of "Puquinas" and Urus," which Brinton adopted, has been followed by other authorities since, including R. de la Grasserie, in his work on the "Puquina language,"¹ which is based upon the material in De Ore's famous *Rituale seu Manuale Peruanum* (Neapoli, 1607), a copy of which in the Library of the British Museum served also for Brinton's investigations resulting in his article of 1890.² De la Grasserie (p. 1) simply copies Brinton in his description and nomenclature of these Indians: "The Puquinas known also by the names of Urus, Uros, Hunos and Ochomazos, etc." Dr. P. Ehrenreich,³ in his *résumé* of the ethnography of South America at the beginning of the twentieth century, lists an "Uro or Puquina" linguistic stock, with the remark (p. 65): "In

¹Langues Américaines: Langue Puquina, Textes Puquina. Contenus dans le *Rituale seu Manuale Peruanum* de Geronimo de Ore, publié à Naples en 1607. D'après un exemplaire trouvé à la Bibliothèque Nationale de Paris. Avec texte espagnol en regard, traduction analytique interlinéaire, vocabulaire et essai de grammaire. Leipzig, 1894. Pp. 67.

²Note on the Puquina Language of Peru. *Proc. Amer. Philos. Soc.*, Vol. XXVIII 1890, pp. 242-248.

³Die Ethnographie Südamerikas im Beginn des XX. Jahrhunderts unter besonderer Berücksichtigung der Naturvölker. *Archiv. für Anthropologie*, N. F. Bd. III, 1905, pp. 39-75.

the midst of the Kolya population there still dwell on Lake Titicaca remains of the much disintegrated Uru or Puquina, an independent group, whose language has recently been investigated by Uhle. The language treated under this name by Raoul de la Grasserie seems to belong to a different people."

The studies of Uhle¹ were made during his travels in Bolivia and Peru in the years 1895-1896. In a letter dated from Lima, May 17, 1896, Dr Uhle says that the Uros of Iruitu are linguistically identical with those of the interior of the province of Carangas, and concludes that once they probably occupied the region from Lake Titicaca almost to the Argentinian frontier. In another letter (Sept. 23, 1896) he states that at Iruitu there are 10 men, 14 women, and 9 children who still speak Uro as their mother-tongue, and that, in all probability, no dialectic differences of marked character exist in the language. He also observes that "the Puquina-Uro of Raoul de la Grasserie is totally different from my Uro," adding that, if the latter was earlier spoken about Lake Titicaca, there is not much place there for the former. While at Iruitu, Dr Uhle undertook the difficult task of making himself acquainted with the Uro language, whose exact place among the families of speech of the South American Indians he was not able to assign. The material² obtained by him, consisting of a vocabulary of some 600 words, many sentences, etc., seems never to have been published. Bandelier,³ the most recent ethnologist to refer to these Uros, contents himself with remarking, in a footnote (p. 36, no. 59) that, since Uhle's studies have not appeared in print, he will not venture to indicate the ethnological position of these Indians. He does not seem to have looked into the data of Polo discussed below.

The mistaken identification of the Uru with the Puquinan tongue is met with in Hervas, and from him was taken over by Adelung-Vater and later writers. This identification, however, does not occur in some of the earlier authorities who have treated of the region in question. Garcilaso de la Vega,⁴ e. g., who makes

¹ *Reisen in Bolivia und Peru; Ges. f. Erdk. zu Berlin, Verhdlg.*, Bd. XXIII, 1896, pp. 357-360.

² *Ueber die Sprache der Uros in Bolivia. Globus*, Bd. LXIX, 1896, p. 19.

³ *The Islands of Titicaca and Coati*, N. Y., 1910.

⁴ *Historia General de las Indias*, Dec. V, lib. 3, cap. 13.

the distinction in these terms, "the Puquinas, Collas, Urus, Yuncas, and other Indian nations."

It was not, however, until 1901 that linguistic data of the Uros, of sufficient extent to settle the matter beyond all question, were on record. In that year, Sr José Toribio Polo published an article on the *Indios Uros del Peru y Bolivia*,⁴ containing a vocabulary of some 350 words, besides some 30 phrases, etc., with lexicographical, phonetical and grammatical, historical-ethnographical, observations, etc. This important contribution to the study of the native languages of South America, has been given little or no attention since its appearance, probably by reason of the general inaccessibility of the journal in which it was printed. It was not seen by the present writer, when he compiled his list of South American linguistic stocks in 1906, but he has since been able to obtain a copy. Eric Boman, in his *Les Antiquités de la Région Andine de la République Argentine* (Paris, 1907-1908) discusses the Uros (Vol. I, pp. 67-73) and recognizes, on the basis of the evidence in Polo's monograph, from which he cites, the language of these Indians as an independent stock, absolutely distinct from that of the Puquinas. This the present writer is able to confirm, beyond all doubt, from examination of the original material furnished by Polo. Besides the linguistic data already mentioned, Sr Polo gives a Puquina-Uro-Spanish comparative vocabulary of 20 words, including the numerals 1-10 (p. 456), the text of the *Pater Noster* in Puquina (de Ore) and (p. 457), a list of seven words in Atacameño and Uro, quite sufficient to disprove any suspected relationship between these two languages, a conclusion confirmed by the present writer, who has carefully compared the Uran material in Polo with the Atacameñan of Vaïsse, Hoyos, and Echeverría y Reyes in their *Glosario de la Lengua Atacameña* (Santiago, 1896).

The vocabulary of Polo was obtained by him in 1897 from the Indians of Nazacara, whom he visited for that special purpose. In the language of the Uros, as spoken in their various settlements, there may be some dialectic or local differences. It would seem probable that the Uran linguistic stock was once disseminated over

⁴ *Bol. de la Soc. Geogr. de Lima*, vol. X, 1901. pp. 445-482.

the region from the shores of Lake Titicaca to Lake Poopó (or Aullagas) and the island of Panza, along the whole course of the Rio Desaguadero, i. e., roughly from 16° to 19° s. lat. The diffusion of the Aymará language among the Uros has been so great that, according to Polo (p. 446), the extinction of the mother-tongue of the latter is a matter of only a few years. It is probable, however, that the adoption of Aymará as a means of communication with the outside world, will not so soon entail the complete abandonment of the Uran language. According to Polo the Uran language is still spoken in the following places:

Ahuallamaya. Some 20 km. from Ancoaqui and 40 km. from lake Titicaca.

Ancoaqui. On the left bank of the Desaguadero, 23 km. from lake Titicaca.

Iruitu. Some 12 km. from the mouth of the Desaguadero, in s. lat. 16° 31' 40".

Nazacara. Situated 64 km. from Lake Titicaca and 25 km. from Ahuallamaya, a little north of 17° s. lat.

Simiñaque. An islet in the Peruvian Desaguadero, 6 km. from the village of the same name. Here the Indians all, or nearly all, speak Aymará.

Sojapata. Situated 5 km. from the village of Desaguadero, in Peruvian territory—"the habitual residence of the Uros; it is an estancia where some cattle are bred."

The Uran language is said to be spoken also on the island of *Panza* and perhaps also elsewhere in the region of Lake *Poopó* or *Aullagas*, but few natives use it freely and openly, their ordinary speech being Aymará. Polo further informs us (p. 446): "In 1873 there existed the Uro haciendas of *Chearaque*, *Taguau*, *Tacacatani*, *Chicani-uma*, *Machachaca-marca*, *Arcuni-uma*, *Huallaqueri*, *Calayampani*, and *Tocavi*; and the inhabitants of the Peruvian district of Desaguadero numbered 937 (males 448, females 489), of whom 809 were Indians."

Boman (p. 72) identifies the Uros of the region of the Desaguadero with the Changos, also called "Uros," of the Pacific coast country further south and gives these Indians a far wider extension than the facts really justify, making the Uros the primitive pre-

Quechuan, pre-Aymaran and pre-Yuncan inhabitants of the Peru-Bolivian area. If there were any Uros in the Changoan region (speaking the tongue here considered), they must have been Inca "colonists."

Since there exists in English no linguistic material whatever of the Uran stock, it may be well to give here a brief vocabulary extracted and re-arranged from that of Polo, his Spanish orthography being retained:

ENGLISH	URO	ENGLISH	URO
Arm	ñini	Fire	uji
Axe	potsi	Finger	isñi
Backbone	sikki	Fish	kuuli
Bad	kkara	Flesh	jilli
Balsa	tusa	Flower	ochsachu
Bird	calpu	Food	lule
Blood	loque	Foot	koochu
Blue	coya	Friend	palitak
Bone	siji	Good	chunscacisci
Bridge	pacsi	Great	chachacuai; chucscara
Brother	chichala		
Cloud	siri	Green	cayupiti; chakni
Cold	jipo	Head	achi
Come	cuchaini	Heart	tucsi
Daughter	machi; kuhuai	Heat	siye
Day	makeña	House	kuya
Devil	huaraco	Husband	tucunchai
Die	chuticaque	I	hui; ami; huai
Dog	pacu	Indian	yecuscai
Door	shama	Kill	cous
Drink	hulsaissi	Leg	lise
Ear	kuni	Lasso	chequisi
Eat	nknutsaisi; lucha; lule	Lizard	piasona
Earth	yoka	Maize	tura
Egg	sine	Man	lucuhuahua
Enemy	quekcachine	Moon	chisi; chacaisi
Eye	shucui; chuqui	Mother	atan; mayi
Far-off	hasque	Mouth	ata
Father	apai	Much	yuk
		Name	tuqui

Night	uyani;	Stone	masi
	huayanichai	Stranger	ocsai
No	anapēcuchai	Sun	stuhui
Nose	osa	Talk (v.)	chichicaña
Old	chakni	Thou	cuasi; amjai;
Pot	occhos; marca		cohusi
Rainbow	turata	Tongue	natsi
Red	ppana	Tree	hua
River	huihui	Water	coasi
Road	llicsi	Weep	chijen;
Run	siacchai; suhiati		janchiscaña
Salt	yeco	We	uchunik
Sand	taya	Wife	kunt;
Sea	tari		tucunhuahua
See	chucau	Wind	jipu
Shoulders	tajje; tota	Yes	shipi
Sick	hasintinti	You	anchupk
Sing	hualchicañani	Young	jouhue
Sister	kayo	1	shi
Sky	chicuya	2	piske
Sleep (v.)	tacsuni	3	chep
Snow	katñi	4	pácpic; páctic
Snake	chokora	5	pacnucu
Sombrero	itkara	6	pacchui
Son	ucsa	7	tohoco
Soul	huahuari	8	cohonco
Star	huara-huara;	9	sankau
	kesias	10	kalo
Stomach	cheri		

In Polo's vocabulary, as he himself suspected, some of the words given as synonyms are Aymaran, or, perhaps, in a few cases also, Quechuan. The Aymaran element in Uran, however, if Polo's material represents well, as it seems to do, the language as a whole, cannot be very large, and most of the Aymaran terms recorded in Uran vocabularies may be accounted for by the fact that these Indians speak Aymará as well as their own mother-tongue. Their presence is thus chiefly incidental or rather accidental, the Uros having, in all probability, kept their native speech as far as possible free from foreign elements. The words *achachila*, *larama*, *quillima*,

huarahuara, given as variants for the Uro terms for "grandfather," "blue," "coal," "star," are Aymaran; while *supaya*, an alternate for "devil," *marca*, pot, and perhaps *tocaru*, saliva, *pocota*, ripe, are Quechuan. On page 479 Polo gives a list of 14 Spanish loan-words in Uran, including *huaca* (cow), *sapatu* (shoe), *calzona* (breeches), *yehuyensis* (mare, from *yegua*), *patira* (padre), etc.

The sounds *b*, *v*, *d*, *f*, *ll*, *rr* and *z* do not seem to occur in the language of the Uros. The adjective always precedes the noun, and has no mark of gender. The infinitive of the verb has several different terminations, apparently according to the words from which, when secondary, it is derived. Three tenses, present, past, and future, are distinguished by prefixed or suffixed particles, but the material at hand is not sufficient to enable one to settle the whole matter of conjugation, etc. Adverbs follow the verbs, except when used in interrogative sentences, etc. In compound nouns Polo says (p. 480), "the components are arranged in the order which their signification expresses, *e. g.*, *chekere-koche* (shoe), from *chekere* (what is covered), and *koche* (foot). The number of Uran words, whose etymology is known is, however, too small to settle this point completely.

The numeral system of the Uros deserves a few words. There are separate words for 1, 2, 3; then 4, 5, 6, are, respectively, *pácpic*, *paknucu*, *pacchui*, in which a common first element *pac* appears; 7, 8, 9, *lohoco*, *cohonco*, *samaco* (also *sankau*), seem to have a common terminal *-co*; *kalo*, 10, is unrelated to the other numerals; 11, 12, 13, etc., are *kalosi*, *kalo-piske*, *kalo-chep*, etc.; 20, 30, 40, etc., are *piske-kalo*, *chep-kalo*, *pactic-kalo*, etc.; 100 is *kalo-kalo* (also *pac*); and 1,000 could be expressed by *kalo-pac*.

Among the principal suffixes in the Uran language are the following:

- ai*; in names of male relatives, etc. (*apai*, fathers; *suhuai*, son; *chichulai*, brother, etc.).
- chi*; in certain names of female relatives (*achichi*, grandmother; *machi*, daughter; *ushakpishi*, girl).
- ni*; in certain adjectives (*chakni*, green; *chikni*, old).
- si*; a frequent termination in nouns (*coasi*, water; *muksi*, cigar; *chacsi*, coca; *lucsi*, spoon; *tucsi*, stomach; *potsi*, axe; *chequisi*, lasso; *chisi*, moon; *masi*, stone; *pacsi*, bridge).

Among the suffixes of the infinitives are: *-ai*, *-ana*, *-ani*, *-ana*, *-ara*, *-chi*, *-i*, *-ini*, *-k*, *-n*, *-qui*, *-si*, *-u*, *-ui*, etc.

There is a negative or privative particle, *ana-*, used as a prefix (e. g., *ana-chuni*, "ugly," i. e., "not beautiful"). This particle is also used some times with nouns (e. g. *ana-karchichi*, handleless).

Incorporation (or at least collocation) of the pronoun in the verb occurs, as, e. g., *lulicunkipec*, "dost thou desire to eat?" This word is derived from *luli*, "to eat"; *cun*, "thou"; and *kipec*, "to desire."

The Uran language belongs to the class of American tongues which do not possess grammatical gender, know both prefixes and suffixes (but predominantly the latter), and also, in all probability have some forms of incorporation. But more material (texts, etc.) is needed to complete a satisfactory grammatical sketch. Reduplication appears to be not infrequent.

The etymology of the word *Uru* or *Uro* is not known. Polo discusses the name (pp. 457-458), but the comparative philology exhibited is quite unscientific. The derivation suggested (p. 457) from the Aymará *uri*, unconquered, brave, while not agreeing with the popular estimation of these Indians, is worth considering. The old chroniclers term them "Uros," "Urus," "Uroquillas," "Urinsayas," etc. In the 17th century there was a proverb in vogue, "De indio Uro ningún hombre esta seguro (from the Uro Indian no man is safe)," and the term *uro*, or *uru*, seems to have been in current use, in the sense of "dirty, ragged, rustic," etc. In the vocabulary of Polo the word for "Indian (Indígena)" is *yecuscaï*, concerning which he observes, in a foot-note (p. 471): "Perhaps from *yecu*, salt, indicating that the Indians proceeded from a salt-region, or from the sea, whose waters are salt." But this is one of the rather fanciful ideas indulged in more than once by the author. The term *Uro* does not, apparently, come from the Uran language. Some of the names of Uran settlements seem to be of Aymaran origin. Thus, *Ancoaqui*, according to Polo, is derived from the Aymaran *anko*, "white," *hake*, "man,"—with which may be compared the tribe-name *Yuracare*, of Quechuan origin, and like signification. Future investigation of the Uros and their language will, doubtless, clear up these uncertain matters.

THE EXPLORATION OF MOUNDS IN NORTH CAROLINA

By CHARLES PEABODY

IN May, 1910, in company with my little daughter Margaret, eleven years old, I made a short stay at Fayetteville, North Carolina, for the purpose of examining two small groups of mounds in the neighborhood.

The first group is situated about twelve miles from the town toward the southwest and about five miles southwest of Hope Mills in Cumberland county on the main line of the Atlantic Coast Line and also on the Aberdeen and Rockfish Railroad. The second group is on the Duncan Shaw estate, about eight miles nearly due west of Fayetteville. Fayetteville is situated at the head of navigation on the Cape Fear river; in former times it was the terminus of a plank road leading to the western part of the state; this connection is still maintained by a direct line of railroad, and goods can be here transshipped directly to the sea by daily steamers on the Cape Fear.

The country is gently undulating, well watered, and, as a whole, fertile; much of it is in the "sand-hill" district, and much was formerly covered with the magnificent long leaved pine (*Pinus australis*, *Pinus palustris*) from which turpentine is derived. The great yellow masses of resin adhering to the trees are a characteristic feature of the somewhat sparse remains of the former forests. The sandy character of the land in the lower levels following the track of the Atlantic Coast Line makes the average of the remoter roads slow and deep; the twelve miles to and fro each day from Fayetteville, while picturesque, were tedious. In the scrub timber a few consecutive wagon trips suffice to make a passable road and the multiplicity of these is confusing; it is worthy of note that at one point in the woods near Fayetteville on the way to Hope Mills nine or more roads converge in a star-shaped figure.

I am anxious at this time to express my appreciation of the courtesy of all with whom we came in contact in Fayetteville; a

hospitality to my little daughter and myself characteristic of the south was none the less to be enjoyed, and there were added to this a readiness and an ability to help the work along, to furnish labor, and a very just idea of the objects and of the results of our efforts. To Dr J. W. McNeil I am especially indebted for shelter, guidance, and advice, besides the fact that it was through him that I was informed of the existence of the mounds themselves. He informed my uncle, the Hon. J. C. Buxton of Winston-Salem, regarding the latter who in turn told us and showed sufficient interest to visit us in the field.

The present population of this part of Cumberland county is very largely of Scotch descent. Formerly the proportion was an exceedingly large one and the average of stature easily observed on the streets substantiates this, even if the great number of Scottish names did not suggest it at once. It has a certain anthropological interest in that the name of Seventy-first, a township to the west of Fayetteville is accounted for by the tradition that during the times of the old muster-roll call there were seventy-one names there of men six feet or more tall.

Ethnologically considered, the region was subject to a number of influences.¹ The Siouan Woccon had a position on the Neuse river, and the Siouan Catawba were not far away, in the present South Carolina; the Iroquoian Cherokee extended from near this region westward, and the Algonquians also reached nearly to this point. Intertribal trade and feuds must have caused longer and shorter encampments and the known settlement of one tribe here would by no means make it necessary to attribute the present remains to that tribe. In connection with Indians the following reference by Mr C. J. Koon² is interesting; in speaking of Stanley and Montgomery counties further west he says that fifty years before (1824) bands of Indians used to go to Fayetteville armed with bows and arrows, willing to show off their skill in archery.

Not much work of a technical scientific nature has been done in archeology; a number of antiquities from Lenoir county have been

¹ Cf. J. W. Powell, *Seventh Annual Report of the Bureau of American Ethnology*, 1885-1886, pp. 47, 78, and 114.

² C. J. Koon, *Annual Report of the Smithsonian Institution*, for 1874, pp. 389, f.

variously reported and, in particular, reference may be made to the interesting mound described in the same county by J. M. Spainhour.¹ In a small mound only three by two meters in extent there were three burials in which the right hand of the skeleton rested on a stone, an intentional posture the like of which was not

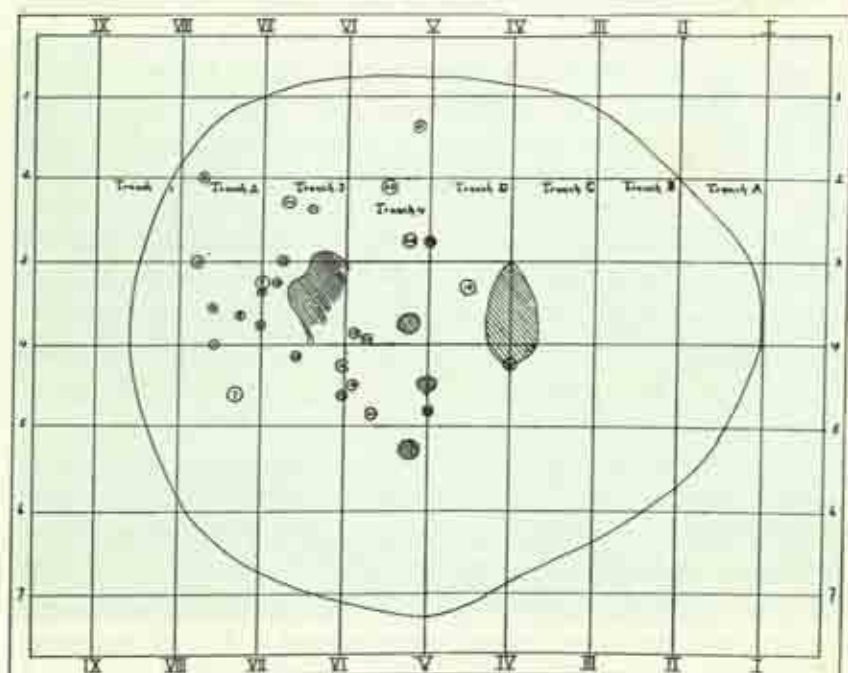


FIG. 41.—Map of Mound I. Portions previously disturbed are shaded, while the numbered circles represent burials; the distance between the coordinates is two meters.

found during our excavations; a further exploration of the district is highly desirable, both for the purpose of elucidating modes of sepulture and to collate the material that may be found in this focus of Indian life.

Numerous reports were brought in from time to time of mounds and antiquities somewhat widely scattered; a camping expedition of a month or so would be well repaid, and, failing larger explorations, if those who dig in the mounds on their own or others' prop-

¹ Cf. *Annual Report of the Smithsonian Institution for 1871*, pp. 404, ff.

erty, would take careful note of what they find and communicate the results either to the writer at the Peabody Museum, Cambridge, Massachusetts, or to the Smithsonian Institution at Washington a beginning at least could be made towards a satisfactory archeological description of the region.

The only mound of any size of any considerable importance opened by ourselves was in the group beyond Hope Mills (fig. 41). A somewhat detailed description of its excavation follows; the remainder of the mounds can be treated much more cursorily. The mound under consideration, known as mound 1 (figs. 42 and 43), was 15.2 meters long and 13.1 meters wide, the longer axis running from west to east thirty-five degrees south; the highest point was .762 meters above the level of the surrounding soil. Considerable digging had already been done in the mound, as may be seen by reference to the map; the previously excavated portions are shown by shading.

In accordance with the better custom where feasible, practically the entire mound was cut through in sections; it was staked out at intervals of two meters, the north and south coordinates being numbered in Roman numerals, the east and west in Arabic. The extent excavated was comprised between stakes I and IX and stakes 2 and 6. In many cases the trenches were carried quite deeper than the surrounding level, as not unfrequently the ground had been disturbed to greater depths. Thus eight trenches were distinguished, the four to the east being lettered *A, B, C, D*, and those towards the west numbered 1, 2, 3, 4 (fig. 44). The soil of the mound being exceedingly easy digging, the work executed by a crew of from four to six men was carried on from both ends at once. It may be remarked in passing that, in most mound exploration in the United States, working through a mound from the western end, sometimes a great temptation when it is known that that section is particularly rich, is attended with the disadvantage that the predominant west winds of our latitudes tend to blow the dust from the excavation over the workmen; as a whole working from the east is more advantageous. As the work proceeded a description of the cross-sections of the mound was taken every two meters for the identification of the strata and signs of construction. At no time was it necessary to create a breast more than 1.15 meters

in height (at stake VI). Nothing especially striking occurred in the sections. Quantities of charcoal and discolored soil were scattered through and there were innumerable roots and twigs, in some cases extending far below the level of the surrounding field. The presence of these roots is of importance in only two regards: (1) they have been a pernicious agent in the destruction of bones



FIG. 42.—Mound I from the south.

find (2) the constant presence of the roots prevents the determination of how much of the charcoal and of other effects of are (notably the charring of the human bones) is due to man's agency and how much to the forest fire which at no remote period burned the mound over; fire will run a considerable distance underground. In my opinion much of the fine charcoal and of the discoloration of the ground are due to this cause, but the charring of the bones seems in large measure to be owing to something else. A "sod-line" was occasionally observed, notably at stake IV.

The mound contained great quantities of human bones, some of them calcined. They were in bad condition, friable and broken, so much so that not one skull sufficiently intact for measuring

could be brought home. The experiment tried with an excellent skull discovered by my daughter of leaving it out over night to harden failed by reason of some predatory animals. Separate burials to the number of twenty-six were distinguished and noted in position on the map, but it is highly doubtful whether they are, the most of them, intentional separate burials at all. Where any order of interment was discernible the bundle type seemed to be adopted with but little regard to orientation, or to the position, or to the placing or direction of the skull. The shallowest burials were nos. 5, 7, 19,



FIG. 43.—Mound I from the east.

and 21, 25 centimeters down, and the deepest, no. 3, 91 centimeters down. Nos. 7 and 18 seemed to be double and no. 23 contained three skulls. No. 4 contained an interesting femur which presents a fracture. Dr W. C. Farabee, of Harvard University, who very kindly looked over the skeletal remains at my request, has furnished the following description: The fracture is of the shaft of the left femur about at the junction of the upper and middle thirds; the lower end shows the rounded shaft of the bone fused in a large bone

callose; the extremity of the shaft above the fracture remains projecting forward and outside. The large bone callose is considerably damaged by weathering.

Otherwise the bones showed no somatological features of interest. But few of the burials were accompanied with specimens;



FIG. 44.—Trench 1, mound I from the south.

in no. 9 a fragment of a pipe lay under the bundle of bones; in no. 13 there was a mass of bones with a stone celt under the north side; in no. 20 a biconical pipe of clay in fragments lay westward of the bones and a little higher up; and in no. 26 several hundreds of minute shell beads lay under the skull.

The fractured bone is represented in figure 5. Scattered human bones were met with elsewhere and in trench 3 (from stakes VI to VII); from stakes 2 to 5 the soil was practically a mass of human bones without any rule or order of deposition. A study of the map shows that the human remains were largely localized in the northern quadrant of the mound. The mound was not rich in specimens; a short catalogue follows. In stone there were the celt mentioned above with skeleton 13, a projectile point of white quartz

from trench B, a part of an elongated monitor pipe with skeleton 9, and a monitor pipe of the platform variety not far from skeleton 14, fragments of projectile points and chips, and some yellow ochre.

In pottery there was found an excellent biconical pipe with skeleton 20 (see above); it is decorated with a V-shaped motive design with a curious figure possibly suggesting a house (Mr C. C. Willoughby); at least it is as much of a resemblance as the famous "Signes tectiformes" of the Dordogne. Two conical fragments, probably the pointed ends of vases for insertion in the soft earth, were found and a moderate number of monotonously and rudely decorated fragments; with the exception of the pipe no complete vessel occurred.

In shell a gorget about five centimeters in diameter was found; it has the peculiarity of a perforation running parallel with the flat surfaces and of course may have served other purposes than that of decoration.

In this mound one meter west of stake V in the line of stake 3, and 60 centimeters down was a cache containing the following: one scraper of white quartz, two triangular points of a dark hard stone and eight of white quartz (of type 1 Ba)¹ and of excellent workmanship, three leaf-shaped white quartz specimens, thirteen fragments of white quartz, one fragment of pottery, three pieces of red ochre, one of graphite, two rough stones with little or no working, a rough but worked flat smoothing stone, and a fragment of a pipe with twigs growing through it. The length of the fractured bone is 23 centimeters.

A comparative absence of human bones was evident in the neighborhood of the cache; in fact, with the exception of the shell beads and a few other objects, any necessary connection between interment and other specimens was not to be made out.

The disposal of the bones, their localization in the northern quadrant of the mound and the massing of the remains of perhaps sixty individuals into a space of a very few cubic feet point surely to secondary burial (common enough to be sure), but also to suddenness or haste in their putting away greater than would be

¹ The reference is to the Report of the Committee on Archeological Nomenclature in the *American Anthropologist* (N. S.), vol. 11, No. 1, Jan.-March, 1909, pp. 114, ff.

the case were there no emergency at hand; accustomed as one may be to extraordinary postures and careless deposition one is surprised at the extreme exemplification of these features here.

Mound II was a few hundred meters to the westward and was eight meters long by five broad and only 25 to 30 centimeters high. Much of the surface had been dug over already and there was not very much of interest to be obtained. A few beads of copper of the regular rolled cylindrical type, some charcoal, and numerous bones were found.

The mounds on the Duncan Shaw Place (nos. III and IV), were still smaller and being in the woods would have been almost unrecognizable had it not been for the memory of Mr Shaw and of an old negro retainer on the estate.

But little was found save fragments of bone of small diameter and many of them broken in clean fractures at right angles to their length. They carried on both surfaces in some cases a series of indentations as if made by futile attempts with a blunt implement at intentional breaking.

On comparison with bones from bodies known to have been cremated, the fractures and markings proved to be quite similar. The bones are white in color and thus, while having been subjected to great heat, are different from those that have been in direct contact with the flames and discolored by them. A distinct absence of any proportion of the larger bones is noticeable, yet that some at least of the bones are human seems highly probable. Further excavation in the region may serve to explain these results of cremation and to set forth the different methods which may have been employed.

The surface in the neighborhood of Fayetteville provides many specimens, often of much finer quality than those thus far found in the mounds. Projectile points, knives, and chips, with an occasional perforator, are found along the water courses by careful search and, although the region is not as rich as some of the classical centers of exploration, it is to be hoped that work there may be continued, work which will be sure to reward the archeologist.

NOTE ON THE OCCURRENCE OF ADOBES IN CLIFF-DWELLINGS

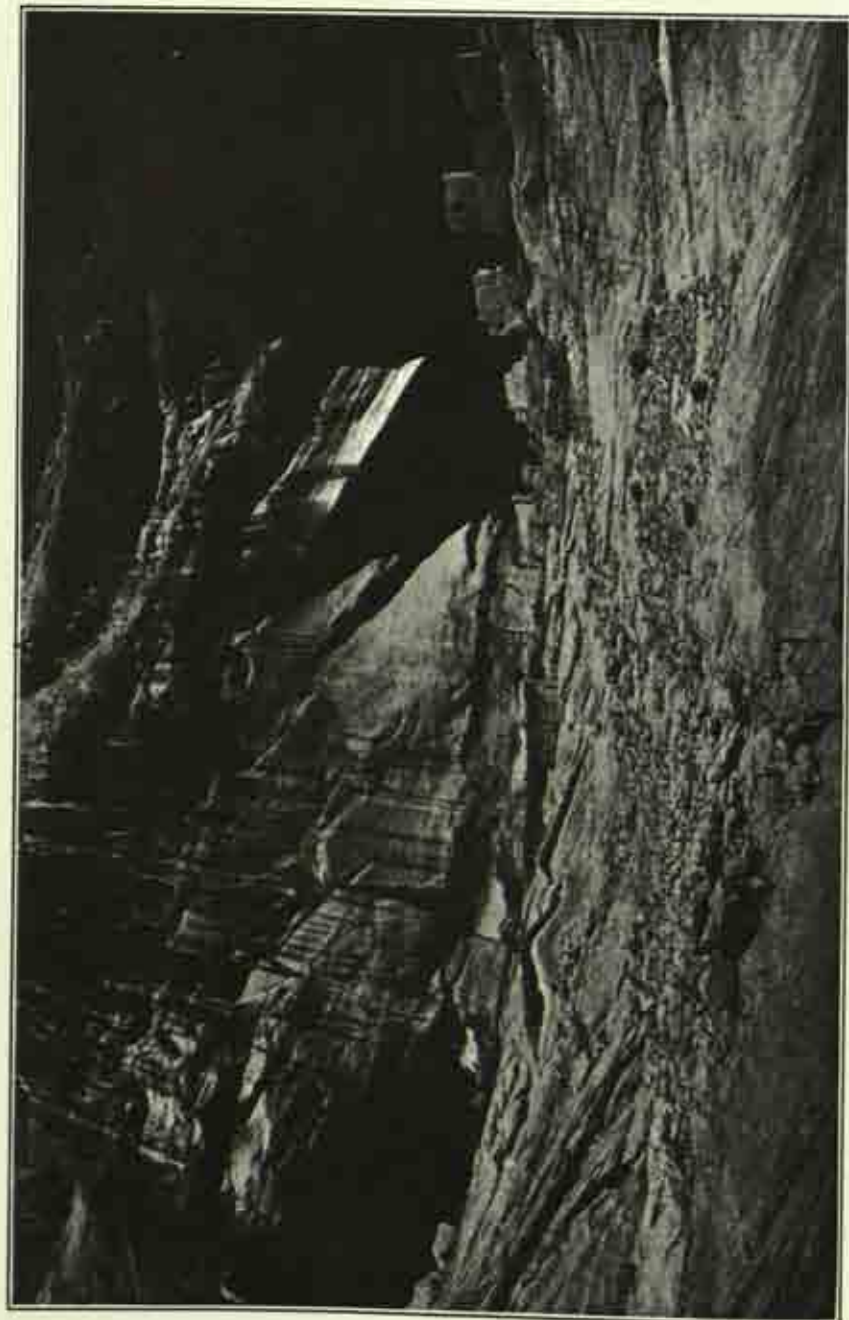
By J. WALTER FEWKES

MEXICANS and Pueblo Indians in New Mexico commonly use sun-dried bricks called adobes in the construction of their dwellings. It is sometimes stated that the Indians were taught their use by Europeans and that the cliff-dwellers were ignorant of this building material. The object of this article is to call attention to a peculiar type of adobe used in the construction of cliff-dwellings situated in West canyon, northern Arizona, and its bearing on the antiquity of the use of adobes in the Pueblo region.

Evidence will be presented in a future publication that the cliff-dwellers of the Mesa Verde National Park used cubical adobes¹ in the construction of certain walls of Cliff Palace. As this ruin is prehistoric it would appear that the cliff-dwellers of Colorado had adobes before the arrival of Europeans. Adobes of the Mexican form and composition are at present almost universally employed by modern Pueblo Indians of the Rio Grande region in the construction of their houses, but up to within a few years they were unknown as far west as the land of the Hopi.² When these objects are found in ruined pueblos it is customary to suppose that these ruins were deserted in comparatively modern times, for the oldest pueblos have no Mexican adobes in their walls. Adobes of the Mexican type are numerous in the cliff-dwellings of the Canyon

¹ The "round balls" of "dirt," ashes, and charcoal mentioned by Castañeda as a building material of the pueblos in 1540 were probably forms of adobes. Cf. F. W. Hodge, *The Original Use of Adobes*, the *Archæologist*, Ohio, August, 1895; also *Handbook of the American Indians*, article Adobe. Castañeda's account of course refers to pueblos not to cliff-dwellers which adds new interest to the discovery at Cliff Palace that the prehistoric people of the latter also made adobes of clay mixed with ashes and bits of charcoal.

² The adobe walls in the Hopi mission, San Bernardino de Awatobi, were undoubtedly due to Spanish influence.



Photograph by W. H. Longfellow

INSCRIPTION HOUSE

de Chelly, where they appear to indicate secondary occupation in historic times, as pointed out by Mr. Cosmos Mindeleff.¹

At least three types of adobes were used by the cliff-dwellers in the construction of the walls of their dwellings: (1) Mexican adobes or sun-dried bricks made of clay mixed with straw. These have a tabular form, well marked angles and show on their surfaces impressions of the wooden frames in which they were moulded; (2) cubical adobes made of clay without straw, but with fragments of charcoal or ashes in composition—their angles are rounded and their surfaces show hand marks; (3) Vienna-roll adobes, made of clay with a central core of twigs, without angles or marked faces, but with superficial impressions of human palms and fingers. The first of the above types is historic and shows Mexican influence; the second and third are aboriginal and probably prehistoric.

In the same general group of adobes should be mentioned the large blocks of natural cement called "*calèche*" of which the walls of Casa Grande in the Gila Valley were constructed. This type is regarded as prehistoric.

I am not considering in this article the Mexican type of adobe brick, or that made in a wooden frame, nor the great blocks of "*calèche*" used by the prehistoric inhabitants of the Gila, Salt, and Santa Cruz valleys in southern Arizona, but a form of adobe brick shaped like a Vienna-roll unlike Mexican adobes in shape, size and construction and differing from the blocks that form the walls of Casa Grande not only in shape and size, but also in the presence of twigs or sticks in their interiors.

The form of adobe found in walls of cliff-dwellings to which this article is especially devoted occurs in the large ruin in West canyon, called by Mr. W. B. Douglass of the U. S. Land Office, Inscription House, a view of which is shown in the accompanying plate* (pl. XXIX).

¹ As will be shown in a later article the people who were the second occupants of some of the Chelly canyon cliff-dwellings not only built new rooms with adobes but also altered old rooms, as kivas, to suit their own ideas, using adobes for this purpose.

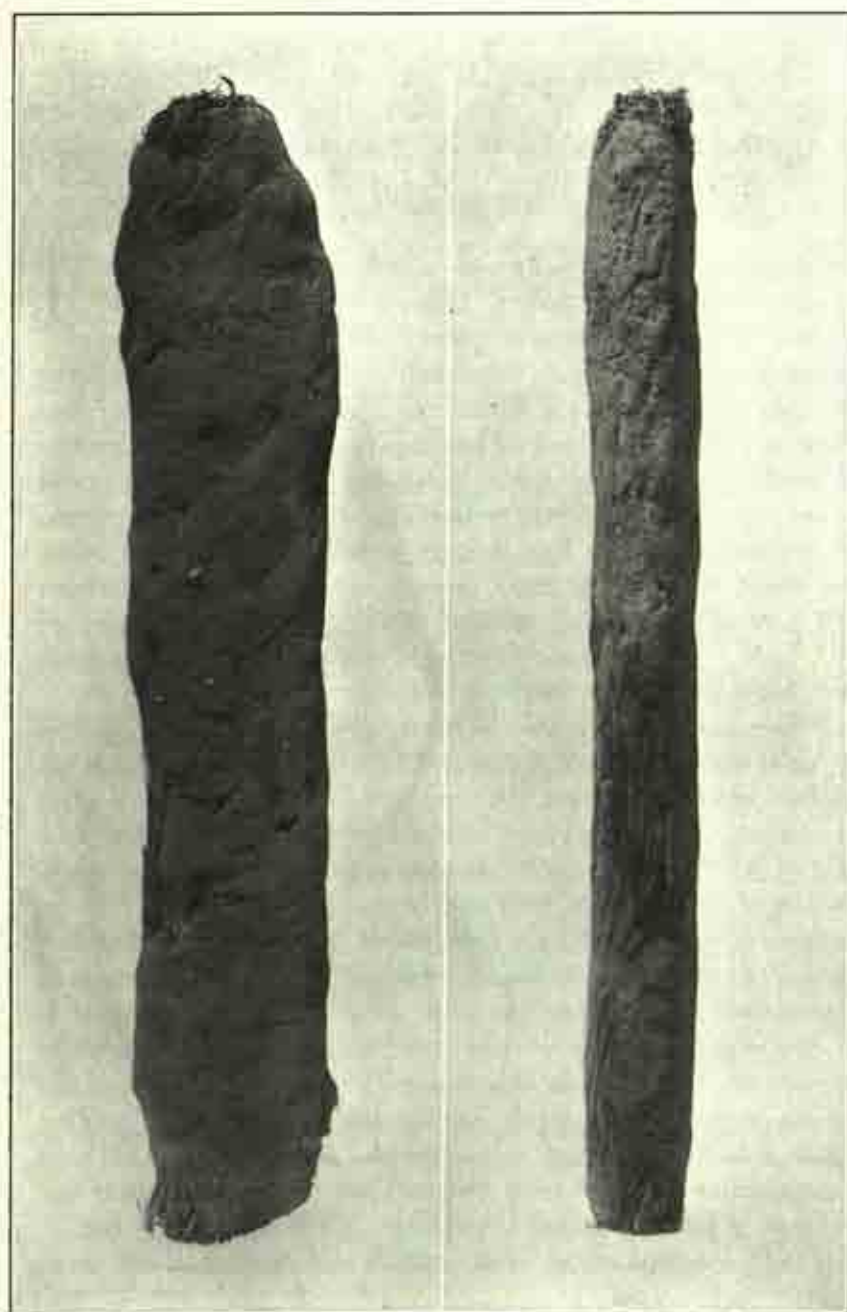
² This canyon is situated in northern Arizona about due south of Navaho mountain, not far from the junction of the San Juan and Colorado rivers, a short distance from the Utah border.

A better idea of the general appearance of one of these adobes can not be given than by a reproduction of a photograph of a typical specimen which was removed from the top of one of the walls of Inscription House, and is now deposited in the United States National Museum. The accompanying plate (pl. xxx) has figures of a whole brick, showing the bundle of sticks which forms a core and binds the particles of clay together, sometimes so tenaciously that it is hard to break down a wall constructed of them. At one point, in the ruin, may be seen a corner and two sides of a room that have fallen on account of undermining, carrying with them two adjacent walls unbroken from their attachment to each other.

The general appearance of these adobe blocks (pl. xxx) would indicate that they were fashioned by hand. They exhibit no sign of the use of a wooden frame such as is employed in the manufacture of Mexican adobes, and in several places on the surface of one of these bricks marks of human fingers and on others impressions of the palms of the hand are noticeable. Their appearance would indicate that they were fashioned into shape by hand before they were set in the walls, but nothing shows that they were ever submitted to the action of fire. Apparently they were still soft when laid, for the faces upon which they rest are more or less flattened.

It is impossible to prove that the ruins in West canyon from which these adobes were obtained are prehistoric and they may be historic. Evidences bearing on their antiquity will be submitted in my report on these ruins. Inscription House may have been constructed by fugitives from the Rio Grande, after the great rebellion of 1680, and therefore by Indians familiar with adobes, but it seems more reasonable to conclude that the builders of these ruins evolved this kind of building material independently, possibly getting the idea from fragments of clay clinging to wattlings in the jacal¹ walls with which they were acquainted.

¹ The "jacal" method of wall construction, which is common in some of the cliff-dwellings of the Navaho National Monument and those of the Canyon de Chelly, also occur in the ruins at West canyon. In this form of architecture rows of upright sticks support the wall, and between these supports are woven osiers, tied together, which hold in place the clay or adobe plasterings.



ADOBES FROM INSCRIPTION HOUSE

THE MORALS OF UNCIVILIZED PEOPLE¹

By A. L. KROEBER

IT is customarily assumed that three stages may be distinguished in the development of morals. At first ethics is asserted to be purely instinctive. Such morality as animals may be said to possess is of this type. Next, morals are alleged to be shaped also by social standards. In this stage custom is thought to be the controlling force, as among savages and barbarians. Lastly, in civilization it is proclaimed, conscience enters, and morality comes to rest on a rational basis, though instinct and custom still continue to assert themselves. A fourth, possible and expected state will be reached, according to this opinion, when these earlier forces are entirely eliminated and ethics becomes purely intelligent. The purpose of the present paper is to deny this theory.

As regards animals, the view outlined may be accepted, for, however great or small their power of reasoning, it is conceded that the mental endowment of all living beings lower than man is essentially if not altogether instinctive. All animals are born imbued with certain abilities beyond which they cannot rise, but which, except for the intervention of sickness, violence, or death, they cannot fail to attain. No animal has ever used speech, organized institutions, made a tool, constructed a work of art, or attempted an explanation; but every normal organism exercises all of the powers of feeling, memory, inference, will, and calculation characteristic of its species, and exercises them equally whether it is reared in isolation or in the midst of its ancestors and fellows. As there is nothing homologous to the rudest culture or civilization among even the highest animals, custom cannot materially influence them, and their equivalent of our morality must be entirely instinctive.

But when humanity is considered, the alleged distinction between the uncivilized and civilized races seems untrue. That any

¹Read before the Philosophical Union, Berkeley, California, October 28, 1910.

people, or any person even, has ever really regulated conduct by ideas or reason, is a delusion. The delusion is a common one because it is pleasing to flatter ourselves that our acts spring from purely rational motives. In fact, and of course, all real action precedes and determines intellectual reasoning, which, being analytical, cannot but be *ex post facto* and secondary. If this is true of ourselves, it obviously applies to people of less civilization, and must be a basic trait of all mankind, inherent in the constitution of human nature. And it is well that this is so, for it would be a sorry existence in which reason had priority over action, since theory will be "gray" as long as life is "golden."

What the future may bring, we may ignore. It is possible that there may exist beings whose reason is action, not its product; but if so, they will no longer be men. Our race will then be run, and we can well leave speculation to their superiority. Our concern is with actualities.

There can be no doubt that the essential moral ideas of man spring from instinct. The repugnance toward murder, appropriation of the possessions of others, treachery, and want of hospitality, is based as little on considerations of social advantage or logical deductions as the sentiments are common to all races and times. The actions that are naturally the most abhorrent to everyone, such as cannibalism, incest, and lack of parental or filial devotion, are so thoroughly instinctive that these crimes have hardly had to be dealt with by most people, and their rarity and want of infectiousness are recognized in the frequent failure of creeds and codes to provide against them. Custom has further strengthened and shaped the inborn resentment we cherish against such actions, and custom has been variously modified by historical surroundings; but the source of the repugnance is purely unreasoning instinct.

This becomes apparent when we realize how little opposed to social advantages and logical correctness such actions may be in certain conditions of human circumstance. Cannibalism judiciously regulated, would well have been of economic and communal profit in many cases in the world's history. Nothing could be proved in a more rational manner, as Jonathan Swift's irony has succeeded in doing; but there is no proof which it would be harder

to induce rational or irrational people to accept to the point of putting the proposition into practice. We may bring ourselves to palliating the untutored savage's act in eating human flesh through an excess of passion against his enemy, or through misled religious sentiment; but the economist or philosopher who sought to ameliorate the condition of one part of society by feeding it upon the other, would, if his views were believed serious, be held up as an example of depravity far more shocking than the Maori or Aztec.

In the matter of incest, it is well known that the common explanation of its enormity, as consisting in its inevitable consequence of deterioration of race, is entirely fallacious. We know from countless generations of domestic animals that it is only an extreme of close breeding that produces loss of racial fertility and individual vigor. An occasional instance or moderate amount of inbreeding is not deleterious and may be advantageous to the strain. The most prized horses and dogs are those produced at least partly by matings that in human kind would be incestuous. Permissibility of marriages between near relatives would obviously result in only some cases of such unions actually taking place, for on the whole the strange and novel attracts most; so that the point of danger in the system would rarely if ever be reached. In addition, as has often been pointed out, incest is so rare, and racial reproduction in man so slow, that actual demonstration of the injury or harmlessness of the practice has never been made. Yet the crudest savages and the most refined philosophers abhor it equally. A feeling that is at once so unreasoning and so universal must be based on instinct.

As for parental affection, it is enough to say that the father of Western philosophy viewed as the ideal republic one in which this feeling was abolished and prevented, but that we of the twentieth century nevertheless do not differ materially from Bushmen or Eskimo in our practice of the sentiment or the regard in which we hold it.

It is clear how these instincts could have arisen. In the animal world, they are, in the main, a necessity. The species that consumes itself, habitually inbreeds, or neglects its offspring, perishes. The

unreasoning conditions of nature therefore have impressed strong aversions to such practices, or have suppressed the instincts toward them, in virtually all higher animals. From our animal ancestors we no doubt derive the same feelings; but as we are a "political animal," whose life is influenced by civilizational surroundings, and who is therefore apparently exempt from the operation of the laws of biological evolution, these inherited instincts may be entirely superfluous and useless to us. That in spite of this superfluity all men cling to them most tenaciously, reveals them to be only part of our blind natal make-up, as much so as the impulse that leads the dog to sacrifice himself for his master, the ant for her hill, the tigress for her young, and the salmon for his unborn progeny.

However, since man is constituted as a cultural being, his instincts must take shape according to his civilization. Hence there exist, in distant times and places, wide divergences or even contradictions of moral teaching, though the moral impulses are always the same.

To kill a stranger is often no crime, where society is organized on a restricted local basis, because the stranger is an enemy. Yet people who proclaim and practice this doctrine are no more given to murder among themselves than we are who justify only the shooting of an admitted national foe. The horizon is different in the two cases, the mental and social environments diverse, the scale of judgment various; but the principles according to which men determine whether a killing is a dastardly murder or an act of patriotic merit, are identical.

In the same way, the definitions of different nations as to what constitutes incest are as variable as their condemnation of the crime is universal. Some modern civilized people are shocked at marriage between uncle and niece, more tolerate cousin-marriage, but nearly all American Indians revolt at both. Until the most recent years Englishmen broke the law of their land if a woman succeeded her dead sister as wife; among innumerable nations the dead husband's brother feels it his duty to wed his sister-in-law. There are Australian tribes today among whom the woman that it is a man's duty to marry is his father's sister's daughter, while wedlock with the equivalent cousin through his mother's sister is an enormity and a crime.

In short, among all men there is a recognition of certain groups within which murder, theft, and marriage are wrong. The extent and composition of the groups vary tremendously from people to people, but this variation is an accident of political or intellectual development, and in itself no index or effect of morality.

In the same way, the respect for the opinion of elders that is generally inculcated in primitive society is not the result of a different morality from ours. Among a people without writing, the nearest substitute, tradition, must be kept largely in the persons of the old; so that deference paid their knowledge and opinions is in the main only obedience to unwritten law.

Much the same is true of hospitality, a virtue in which the savage and the barbarian are thought to surpass their civilized brother. Can the community of food which so many uncivilized people observe, be imagined in our modern industrial system? If the wealthiest man in a large city literally observed the primitive code of hospitality as to food, it would be a matter of days only before his substance was wasted; if all the population did the same, all property holdings would be effaced and the entire economic foundation of the community destroyed. The moment food and shelter must be purchased, the hospitality of savages becomes out of the question. In the desert and in the mountains, on the other hand, such accommodation is indispensable. If the inhabitant of these regions refused hospitality on the ground that he was not an inn-keeper, and it were in turn not extended to him, travel would become impossible and life intolerable. Hence it is that indiscriminate hospitality decays even among uncivilized races as soon as a truly industrial system of property begins to develop, while it maintains itself with undiminished vigor in the midst of high civilization wherever remoteness and scantiness of population combine to paralyze such a system. In short, we must all adapt our practices to economic conditions; but under the same conditions all types of men have the same sentiment about the right and wrong of hospitality.

In the domain of manners, which verge so closely on morals, some of the strangest divergences of custom are to be found. Many American Indian tribes inviolably follow the practice of not address-

ing parents-in-law. For a Sioux to speak to his mother-in-law would be as great a breach of decorum, for which he would feel actual shame, as it would be disrespectful and reprehensible for men of many other nations to maintain a perpetual and ignoring silence. The method of showing respect is opposite, but the moral feeling that compels respect is identical in the two cases.

Sometimes it even happens that two people agree in condemnation of an act, but for diametrically contrary reasons. There is the old story of the Australian mother who weepingly confided to the settler's wife that her friends had eaten her baby, but when consoled with revealed the fact that her indignation was only at not having been permitted her rights in sharing the meal. More authentic is the Polynesian attitude toward combs and food. To bring someone's comb into contact with food, or to lay it in an oven, was the grossest of insults,—but to the owner of the comb. Food, to the Polynesian, is profane and defiling, while the comb, which is in contact with the head, is emblematic of personal dignity. The interpretation of our civilization is rather that the bodily is indecent and offensive, and that food must be uncontaminated, so that only the partaker of the food would resent the contact. The underlying moral feeling in both cases is one that all nations would share, namely, that pollution is an offense; the conceptions of pollution, however, are so diverse that its supposed methods of operation are directly contrary. Whether we believe that the comb defiles food or that food defiles the comb depends on our ideas of substances and their relation; the ethical and instinctive impulse against defilement is identical.

When religion enters into morals, it has a powerful effect, but the influence is normal whenever the two forces are joined. The ethics of savages are full of the most remarkable commands and injunctions resting on purely ceremonial grounds. Their codes frequently present an incongruous mixture of purely moral and purely ritualistic elements. To eat without an offering, to plant without a prayer, to hunt without a purification, to permit a woman to enter a boat, to wash or to fail to wash the body or an implement at a certain juncture, are represented as not only highly dangerous and injurious, but as being actually bad in themselves, as much so

as betraying a relative or not respecting one's elders. And logically so. If spirits, gods, or animistic powers exist and stand in certain definite and practical relations to us, as all uncivilized people believe they do, it is clear that we possess certain obligations toward these beings which may be different from the duties we owe our fellow-men, but which must be analogous in kind, and therefore find their proper places in an ethical code. Nor is this condition confined to the uncivilized. Of the ten commandments enjoined upon the followers of the religion which for two thousand years has been professed by the majority of so-called civilized nations, three, and the first three, are strictly ceremonial. If tradition, sanctity, and authority tell us in the same breath that it is forbidden and wrong to kill and to use a certain name in vain, to be unfilial and to attend to daily business on the seventh day instead of the sixth, we cannot wonder that "untutored minds" hesitate to eat in a boat, to kill a snake, or to be disrespectful to an animal, with the same sincerity of feeling that leads them to refrain from theft or inhospitality. There is not a civilized people today among whom communities cannot be found in whose eyes the refusal to attend church or to make profession of religion is a greater wrong than wife-beating.

The fact is that religion, which seems to have no inherent connection with morals, is nevertheless in reality always most intimately associated with ethics. Whenever this is not the case, and a system of morality becomes self-contained and self-sufficient, as is the tendency in modern western civilization, it is because the associated religion has lost its vitality. The two influences inevitably intertwine. Religion, whenever vigorous enough to make an appeal, seizes upon morality and strengthens itself by incorporating it in its own substance. At the same time morals gain in appeal, in emotional intensity, and in authority, from the association. It needs only the existence of both forces, therefore, for them to become connected and, however illogically, confused. It is almost certain that whoever maintains his ethical doctrine to be something that is valid purely in and from itself, has no really religious belief.

It is a fair question whether the normal association between

morals and religion does not lead to the inference that they are sprung from a single source. Nevertheless, this does not seem likely. Morality, as we have seen, is instinctive. The most deep-seated and important moral impulses we share with animals. We can even see the necessity of their existence, from a non-moral point of view, in the scheme of animal evolution. Religion, however, is confined to man, so far as we can judge, being based essentially on formulated conceptions and explanations, psychic actions that no animal is capable of. It plays no part in biological evolution, and its origin as well as its purpose are obscure. Religion would be an impossibility without language; morality, or at least its exact counterpart, if we prefer to deny true morals to animals, comprises some of the most fundamental instincts of all living beings, and must be far earlier than speech. In spite of their close connection through most the course of history, religion, a conceptual activity, and morality, an instinctive force, are therefore not to be identified.

We have seen the ethical ideals of different times and places to be highly colored by custom and by historical, economic, and intellectual surroundings, perhaps by natural environment even, although everywhere resting on the same basis and actuated by the same principles. There is also much variety in the terminology of the explanations given of morality. Of course religion has been particularly active here. In ancient Palestine Jehovah, the mountain, and the stone tablets were brought forward as a convincing argument, just as in native California Chungichnish with his associates the raven and the rattlesnake furnished the reason why we should be good rather than bad. Even when the ritualistic apparatus is passed by, or does not exist, there is a divergence of explanation, for a "child of nature" has neither the ideas nor the language of a dialectic thinker. And yet, after all, the greatest philosopher since the Greeks, fell back, in the search for a basis of ethics, upon the "categorical imperative"; and it is doubtful whether in this conception, however satisfying it may be to our genuine and more advanced intellectual needs, he essentially transcended the American Indian's answer, to the question why a certain action is objectionable: "because it is bad."

If our pride takes refuge in the assertion that, however unreasoning and eternally unreasonable our moral impulses and ideas may be, we nevertheless today surpass the ancients and the uncivilized by a more faithful practical adherence to the ethical standard, unprejudiced observation will scarcely support the contention. There is nothing to show that primitive men, or people of any level of civilization, fall below ourselves in degree of actual virtue or vice. The standards of virtue we have seen to be widely different, in spite of the persistence of principles, on account of the changing forms of civilization; but actual demonstration that the respective ideal standards are relatively less completely lived up to in the so-called lower ranks of civilization than in the higher, has never been made. An occasional instance, like the oft cited one of the Fuegian who brutally killed his child in a burst of rage at a trifling piece of carelessness, proves nothing. This case may be as absolutely exceptional in Fuegian life and as revolting to the normal Fuegian as parricide is among ourselves. In fact we may almost certainly conclude that it is exceptional, on account of the overwhelming and nearly unanimous mass of evidence revealing the deep attachment and unswerving affection that uncivilized people feel for their children. We must also remember that the traveler, like the journalist, however truthful of fact, must report the striking, and therefore almost necessarily the exceptional. Detached instances prove nothing, and statistical information is of course not available.

On the other hand, it is the indirect impression if not the direct testimony of those who have lived in intimate contact with uncivilized people, and have been competent to understand and unprejudiced enough to judge them, that their success and failure in practical morality is very similar to our own. Nothing is more erroneous than the wide-spread idea and oft-repeated statement that the savage is only a child. In knowledge, to a certain extent in intellect even, he may not rank above the children of civilization; but in character, in emotions, and in morals, he is essentially and absolutely a man. Theorists who do not realize this fail entirely to understand the people of whom they speak. It would be as reasonable to allow to an ape only the psychic activity of a human

foetus. In the writings of Darwin, whose motive of course is obvious, we find constantly the assumption that the savage is in a stage intermediate between the higher animals and ourselves, and this view has been seized and harped on and developed by numberless theorizers and appliers of the doctrine of biological evolution to ethnology, sociology, and history. With all the breadth and acuity of his mind, Darwin was not an ethnologist; preeminent in natural history, he gives little indication of any deeper understanding of human history; and his supposition cannot be rejected too insistently. Men are men and essentially alike wherever born and however reared, and breadth of view uninfluenced by doctrinal purpose has always subscribed to this opinion. There is every reason to believe, accordingly, that uncivilized and civilized men practice what they respectively regard as virtue, to the same degree.

In short, the moral element in humanity is basically instinctive. If we believe in evolution from animals, we must find the source of human morality, as of human senses and emotions, in animal life. Being an inherent element of the human mind, it is psychologically unexplainable and finds its justification only in itself. As an integral constituent of man, it is common to all races in identical or virtually identical form. Variations in moral ideas are reflections of changes in civilization. As civilization, however, is something outside of race and independent of the human body; and as it affects only the body of knowledge possessed by a people and the actions connected with this knowledge, the principles of morality cannot be influenced by civilization, however the concrete expression of these principles may vary in their adaptation to particular forms of civilization. The apparent difference between the morality of savages and ourselves is therefore not really in the morality but in the civilization.

To those to whom it is new, this conclusion may seem devoid of hopefulness and even depressing. But it should be remembered that if the moral impulse is instinctive, it is correspondingly universal and ineradicable; if blind and unreasoning, it is also immovable; if inherited, it is permanent; and if incapable of racial improvement, it is equally incapable of deterioration as long as men are men. That our moral nature is as fixed and determined as our

physical organization, is as little a cause for regret, and as little a bar to progress, as the fact that the greatest advance of civilization has never been able to cause a single new emotion or to alter the laws of logic that govern our thought.

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BOOK REVIEWS

The North American Indian, being a series of volumes picturing and describing the Indians of the United States and Alaska. Written, illustrated, and published by EDWARD S. CURTIS; edited by Frederick Webb Hodge; foreword by Theodore Roosevelt; field research conducted under the patronage of J. Pierpont Morgan. (20 volumes.) Volume 5.

The fifth volume of Curtis' monumental Indian book treats of the Mandan, the Arikara, and the Atsina (or Gros Ventres) tribes; and as in earlier volumes the treatment comprises a general and historical account of each tribe, with a description of notable ceremonies and a discussion of the mythology, including typical myths; the whole illustrated by admirable photogravures of Mr Curtis' own inimitable photographs—of which there are seventy-six in this fifth volume.

The account of the Mandan is based in part on the records of La Verendrye, Prince Maximilian, and others, but derives its chief value from studies by the author among the survivors of the tribe. Through these survivors he obtained traditions throwing light on the earlier movements and tribal relations no less than on the later tragic history of this interesting people; he was particularly fortunate in gaining access to and opportunity for photographing the esoteric symbols of the tribal cult—the "sacred turtles" about which so much of the faith and tradition of the tribesmen clustered; and his record of the Okipe ceremony (which must always rank among the most impressive manifestations of primitive culture) will undoubtedly become a standard. His intimate study emphasizes the essentially agricultural habit of the Mandan. Though depending on the buffalo in part for subsistence no less than for materials used in ceremonial and industrial life, their special food—the "four-mixture"—was vegetal, consisting of corn, beans, squash, and sunflower seed, prepared with the addition of buffalo fat; while their fields were cleared and cultivated in a definite way. This habit, coupled with the migration tradition, throws suggestive light on the relations between the Mandan and their collinguals of the northern plains: it would appear probable that the ancestors of the Mandan did not come over from the Atlantic coast and were never of the Umaha (or "Up-stream people"), but belonged instead with the agricultural folk of Siouan stock who previously occupied much of the interior from the Gulf Coast probably to the Winnebago habitat on the north and were displaced by their buffalo-hunting

collinguals descending the Ohio and dividing at the Mississippi—the prehistoric Mandan forming the northwesternmost extension of this early Siouan population.

The account of the Atsina, too, is notably enriched by the author's personal investigation. Partly because of the derisive appellations applied by neighboring tribes and adopted by Caucasian pioneers, the distinctive traits of the Atsina have been comparatively neglected; so that Curtis' appreciative treatment is all the more welcome. The description of the Arikara also attests prolonged personal work.

The several Curtis volumes show a progressive improvement in both technique and spirit. Originally designed largely to picture the Indian as he is today in an environment already greatly changed by white contact, and primarily expressing pictorial rather than scientific ideals, the work has in natural course developed investigative character, albeit naturally less along technical lines in philology, sociology, and other definite branches than in the broader field commonly connoted by the phrase "manners and customs." Doubtless the chief permanent value of Curtis' work will lie in his remarkably successful photomechanical representation of Indians and Indian scenes; for so long as books last and minds run toward faithful representation of actualities his pictures will form our most trustworthy graphic memorial of our passing aborigines. Yet pictures alone reveal but a small part of the full life of a people—of the rich detail in that ceaseless struggle for conquest over lower nature in which even the most primitive tribesmen are engaged, and by which both individual efforts and tribal movements are inspired. In each of the thousand tribes within the field covered by Curtis' work, a part of the great course of human progress was epitomized; a language expressed a philosophy, and a tribal organization marked a summation of experience in the realms of both thinking and feeling—and quite in addition to the pictures, Curtis' records are material contributions to our store of permanent knowledge of the life of the aborigines and of the growth of culture.

The work for which credit is due jointly to Edward S. Curtis and J. Pierpont Morgan is timely. It comes at a stage of artistic and technical progress adapted to accurate representation, yet before the end of the primitive and the distinctive in Indian life and character; and fortunately it spans a hiatus in the progress of American anthropology due to death of leaders with consequent reorganization of instrumentalities. As Schoolcraft in his day and Catlin in his way seized opportunity for placing later generations in their debt, so Curtis and Morgan, in erecting a noble monument to a passing race, will earn for themselves the gratitude of generations yet to come.

The book-making remains of the most sumptuous. It follows naturally that the circulation of the original edition must be less wide than the work deserves; and it is to be hoped that after the first edition has served its purpose a more popular issue may follow.

W J McGEE

British Museum: Handbook to the Ethnographical Collections. Printed by Order of the Trustees, 1910. $8\frac{1}{2} \times 5\frac{1}{2}$, 15 plates, 273 text figures, and 3 maps.

This publication is something more than its title indicates; it is also a concise treatise on general ethnography. The book contains not only an account of the material culture of historic primitive peoples, including a description of their clothing, ornaments, implements, utensils, weapons, ceremonial and religious paraphernalia, but it treats also of their physical characteristics, of the distribution of types, and of social, religious, and other customs. While the book serves as a guide to the Ethnographical section of the British Museum, and the specimens illustrated are in that institution, it is practically free from disturbing references to rooms and cases where the specimens are shown, which renders the book of greater interest to the general reader. Independently of the museum it forms an excellent handbook for general use. The introduction of 44 pages opens with a brief historical account of the famous Christy collection that forms the nucleus of the ethnographical exhibit. This is followed by references to the more important travels and explorations which have brought knowledge of primitive peoples to civilized states. The rest of the introduction is arranged under the following headings: Man in his relation to the material world; Man in his relation to his fellows; Man in relation to the supernatural.

The remainder of the book is arranged geographically. The regions treated more or less fully are Asia, Australia, Oceania, Africa, South America, and North America, with the exception of Mexico and Central America, which will form the subject of another handbook.

The series of specimens from Asia in the Ethnographical section of the museum is not extensive. Turkey and Persia are without illustration, and the civilizations of the nearer and farther East are practically unrepresented. The work from these countries, like that from China and Japan, is primarily of artistic or archeological interest and is exhibited elsewhere in the museum; hence the ethnology of these countries is but briefly noted or omitted altogether. The principal objects described from the Indo-Persian region and Japan are armor and weapons.

The arts of the Ainu, Tibetans, Nagas, Sinhalese, Nicobar Islanders, and the Andamanese are treated somewhat more fully. Considerable space

is devoted to Indonesia in general, to Borneo in particular, and also to Australia, but the greatest space is naturally devoted to Oceania and Africa as the collections from these regions are extensive. As is usual with books on general ethnography the section devoted to North America is restricted and the treatment of the subject not wholly satisfactory. The arts of the Eskimo, of the Northwest Coast Indians, and of the Plains tribes are the most fully described. The ethnography of South America is treated under two divisions: the northern, which includes the Amazon region; and the southern, which comprises the greater portion of the continent south of the Amazon-La Plata watershed. The linguistic grouping of the tribes of these regions is hardly in keeping with that of our best authorities, for instance, the Jivaro, Zaparo, and Pano, each an independent stock, are classed as Arawakan.

The book will be found of much value to curators of ethnological museums, for the plates and text illustrations representing upward of 650 objects are excellent in every way, and with few exceptions the identifications of specimens as to locality and use are reliable. The most noteworthy exceptions are as follows: the interesting cedar bark robe shown in the colored frontispiece is not Chilkat, but is probably of Wakashan origin; the shield shown in fig. 82 is Kalinga; the headdress represented in fig. 234 is Aleut, not Tlingit; the bag illustrated in fig. 257 is Wasco (Chinookan family) and is from the Columbia river.

There is a very complete general index, and a geographical and tribal index, the two occupying 14 pages, that add much to the value of the book.

CHARLES C. WILLOUGHBY

Castes and Tribes of Southern India. By EDGAR THURSTON, assisted by K. RANGACHARI. Madras: Government Press, 1909. 9½×6, 7 vols., ills.

This work is a production of a systematic and detailed ethnographic survey for the whole of India which received the formal sanction of the government of India in 1901. The territory assigned to Mr Thurston for the purposes of survey was Madras Presidency and the states of Travancore and Cochin. The volumes set forth, in short, information regarding more than 300 castes and tribes representing more than forty million individuals spread over an area of 150,000 square miles. The state of Mysore was excluded for the purposes of ethnography but included for that of anthropometry. The volumes are written in the form of a dictionary, the various castes and tribes being treated in alphabetical order. Mr Thurston started his studies in the anthropometry of southern India in 1894 and has published a number of works of anthropological character before this one. The present

work is, in short, a result of his labors for fifteen years, and probably robs his preceding works of their value. During a part of this time he was aided by a number of native Indian assistants. The anthropometric data in this work are the result of measurements taken by Mr Thurston personally.

Mr Thurston is known in southern India for his sympathetic attitude towards the natives of the region, and the same spirit is discoverable in the work before us. It is hardly necessary to say that it represents considerable labor, information from many sources being presented to the reader in a systematic form, while each volume contains a number of curious and interesting illustrations. Many of these illustrations have appeared in a previous work, and have been credited by Mr Thurston to his associate editor Mr Rangachari.

It is not possible to make here any statement regarding the condition of our knowledge of the anthropology of southern India as revealed by this and other works, and it is equally impracticable to give an opinion regarding the merits and defects of the inquiry. The reviewer purposes to discuss these questions elsewhere, and at present confines himself simply to a consideration of the reliability of the data.

In any huge work errors are unavoidable, and, while I keenly appreciate the amount of work which Mr Thurston has done, I feel bound to point out the defects, to caution those readers who may like to use this material.

The editorship of the work shows such defects as would impair the value of the work seriously. Take for example only two pages from the article on Brahmins (vol. 1, pp. 268-9). I notice herein a number of important mistakes varied in their character. The transliteration of Sanskrit words is done so carelessly that I am in doubt as to whether the editors took any care whatever to consult a Sanskrit student. Out of the eight names mentioned on page 268 four are so badly spelt that a reader familiar with Sanskrit would feel that the editors must have taken down the names from the oral delivery of some illiterate person. Even the sacred hymn of Gāyatrī (p. 312) has not been spared the humiliation of bad transliteration. When placed side by side with grave errors in spelling, pretense to accuracy by the introduction of macrons in the Indian words seems ironical if not ridiculous. We should certainly have expected a better editorship than this when the associate editor, Mr Rangachari, holds a master's degree from the University of Madras.

In that very article one sees some evident inaccuracies in fact. For example, while dwelling on the divisions of Pancha Dravida Brāhmanas the book gives "Marathis or Deshasthas" as one of the five divisions (p. 269). By this equation the editors evidently mean all Maratha Brāhmins are

Deshastha Brahmans, which is inaccurate. Deshasthas form only one division of the Maratha Brahmans.

There seems to have been some attempt on the part of the compilers to make the description of castes and tribes more amusing than accurate. We read (vol. 1, p. 268): "Every Brahman is expected to salute his superiors by repeating the *Abhivādhnam** (salutation) which contains his lineage. As an example, the following may be given:—I Krishna by name, of *Shrivathsa** gotra with the *pravara* of five Rishis Bhargava,* *Chyāvana* *Āpnuvata* *Aruva*† and *Jamadagni*, following the *Āpasthaba** sutra of the *Yajus Sāka* am now saluting you."

Being a Brahmana from southern India I can confidently deny the accuracy of the above statement. One never comes across a formal salutation of this kind in daily affairs. In fact, no Brahmana is expected to make such a formal salutation except in the worship or on some similar grave occasion. If a Brahmana used this form of salutation on any occasion excepting a religious one it would appear extremely silly. I may add that the words which I have starred in the above quotation are examples of mistakes in spelling, while I can not guarantee the accuracy in spelling of names indicated by a dagger. I may not have come across these names, or they may have been so badly spelt that I cannot recognize them.

One also finds unnecessary repetitions in the book. The myth regarding the seduction of Ahilya by god Indra which resulted in the birth of three castes, Kallans, Maravans, and Agamudaiyans is given at length in articles on each of these castes.

In many places the text is not clear. It contains a large number of words adopted from the languages of southern India, the English equivalents or explanations of which ought to have been given in a form convenient for reference. Again, notes on points like 'right handed' and 'left handed' sections of a caste ought to have been properly annotated. I feel grave doubts whether an English or American reader would understand the book thoroughly without any external assistance. The illustrations are perhaps amusing, but they are of very little scientific value. The articles are not properly digested. They give an impression of many scraps being thrown together by an unskilled hand, and a reader could not pass through a single long article without apprehending the truth of my statement. The Dravidian question has been disposed of in such a manner that I can not but feel that the writer did not take enough pains to understand the scraps he had collected.

This fault finding on the part of the reviewer should not be construed into lack of appreciation of the work which Mr Thurston has already done. This work gives a great amount of information regarding the castes and tribes

of southern India in a convenient form, and the defects have been pointed out only to caution the anthropologist who may have to use it. On the whole the work shows Mr Thurston to be more of a collector than a scholar or investigator.

As things stand now the preparation of an index volume becomes necessary, and this task may give the editors an opportunity to make some useful additions and corrections.

It would have been better had the editors prefaced to their catalogue of castes a general picture of the population—a picture of the hierarchy of castes, of their usual occupations, of the religion of different social strata, etc. Such a picture would have enabled a foreign reader to go through the work more intelligently. Mr Thurston ought also to have given at least a rough presentation of his sociological theory in collecting facts. Such a presentation would have enabled the reader to find out the limits of his inquiry rather more exactly. It would have been well to have called attention in the preface to articles on subjects like Albinos, Tali, Jew, Chinese-Tamil Cross, Eurasians, etc., for it is not likely that a reader would think of looking for them in this work unless he is previously informed of their existence.

Regarding the comparative reliability of the different classes of data in this work, the following remarks may be made: (1) The anthropometric data, which by the way are from measurements taken by Mr Thurston personally, are authoritative. They are the best data we possess on the subject and form the most reliable part of the work; (2) the descriptive facts gathered regarding various tribes and castes may also be trusted but not absolutely; (3) the historical discussions casually entered in the book are not quite so trustworthy, and the Sanskrit scholarship of the work is very defective.

The reviewer wishes to commend to the government of Madras the admirable plan adopted by the government of East Bengal and Assam of asking competent scholars to prepare and publish separate, scholarly monographs on important tribes and castes, similar to the one on *The Garos* reviewed in the *American Anthropologist* for April-June, pp. 316-317.

SHRIDHAR V. KETKAR.

The Cochin Tribes and Castes, Vol. I. BY L. K. ANANTHA KRISHNA IYER. Madras, 1909. 9¼ × 6, pp. xxx, 366, 44 plates.

The title of the work sufficiently explains its contents. The volume before us deals with castes and tribes which speak the Malayali language and are considered as "untouchables" by the higher castes. Mr Iyer promises

to deal with the higher castes in future volumes. This book is free from many of the flaws which I have found in Thurston's work. It does not contain any anthropometric data, as the author has planned to confine himself to descriptions of the customs, manner, traditions, etc., of the various castes. The information contained in the book is well digested and is presented in an agreeable form. The superiority of Iyer's work over Thurston's is partially due to the fact that Mr Iyer is a native of southern India, and partially to the greater care and patience which he has shown in performing his task. The illustrations in this volume are also superior to those of Thurston.

Prefacing it are two introductions, one by John Beddoe and the other by A. H. Keane. Keane's introduction materially increases the value of the work. He takes this opportunity to present his theory of the racial composition of India, and to criticize those of Ripley and others. Though it would be too much to say that Keane has established his thesis beyond doubt, yet in the present condition of our knowledge regarding the ethnography of southern India, his view appears to be more probable than those which he opposes. This theory is as follows:

In the present general amalgam are represented five primary stocks: a submerged *Negrito*, probably from Malaysia; *Kolarian*, *Dravidian*, and *Aryan* who arrived in the order named from beyond the Hindu Kush and the Himalayas; lastly the *Mongul*, mainly confined to the Himalayan slopes. To the Kolarian, Dravidian, and Aryan ethnical stocks, correspond three distinct linguistic stocks, Kolarian being radically different from Dravidian, and both from Aryan. There is therefore no "Dravido-Kolarian" or "Dravido-Munda" mother-tongue, and these and the other compound terms like Indo-Aryan, Scytho-Dravidian, etc., are for the most part meaningless if not actually misleading.

If Dr Keane has any more evidence than what is published in this introduction to support the above mentioned theory, that evidence deserves to be published. Its publication will facilitate further research on the subject.

SHRIDHAR V. KETKAR.

Chinese Pottery of the Han Dynasty. BY BERTHOLD LAUFER. Leyden: E. G. Brill, 1909. Roy. 8°. pp. 339.

This is a publication of the East Asiatic Committee of the American Museum of Natural History—the Jacob H. Schiff Chinese Expedition as stated on the title page. The committee organized to direct the endowment of Mr Schiff appointed Dr Berthold Laufer, explorer and collector, as eminently qualified to take charge of the work, and this gentleman spent nearly

three years in exploration in China and in studying native books on the subject of his investigations. The large number of objects figured were secured by Dr Laufer in Hsi an fu, province of Shensi.

The title of the book conveys little meaning of its contents. The author not only describes the pieces of Han pottery brought home by him from China, but examples of Han pottery in the possession of public museums and private collectors. The description of the pieces, however, is but a prelude to an exhaustive discussion of the culture of the Han dynasty as illustrated by its pottery, and this last sentence as a title would have conveyed a better idea of the remarkable work done by Dr Laufer in actual research and excavation and in the study of many Chinese works relative to the subject than the title used. Indeed the author confesses the broader character of his work when he says (p. 9), "In the following study it has been the aim of the author to furnish contributions, not so much to Chinese ceramics as to the archeology or culture of the period in question, and to illustrate ancient Chinese culture by means of these finds." Only one versed in the written language can profit by the numerous foot-notes in which are long quotations in Chinese, and titles of books, and even in the text are many quotations not translated. In fact this feature of the book compelled its publication in Holland, where, through the labors of De Groot, Schegel, and other sinalogues, the proper fonts and the men to set them have been brought together.

The reader may wonder how the Han pottery can give one a clue to the culture of that period, but an examination of the excellent figures, of which there are many, will convince him that many texts are presented for the discussions that follow. A parallel example is offered in the study of early Egyptian culture derived from the representation of trades, customs, etc., in wood, stone, and pottery, supplemented, and often confirmed, by the mural decorations in ancient tombs. In like manner, then, the mortuary vessels of the Han period present to us many important features in the life of the people. We may remark in passing that the general reader will have to turn over many pages before he finds the date of the Han dynasty in our chronology, which is B.C. 206 to A.D. 25. (Eastern Han lasted from A.D. 25 to A.D. 220.)

In these objects are found models of animals, houses and household utensils, agricultural devices, hunting scenes, and a variety of material which reveals to us in a fragmentary way the culture of that remote period. An enumeration of the many features exhaustively discussed would exceed the limits of this brief review, but the student interested in the relations of China with neighboring countries will find in this work a rich mine of information of a most varied character and with ample references.

A pottery hand mill leads to an interesting discussion, with many illustrations from Chinese sources, of various grinding devices, such as earth mills, hulling and winnowing mills, worked by water, animal, and man power. The student of the Chinese written language will be interested in the discussion as to the best rendering of the characters. The author criticizes Giles as to the translation of two characters which certainly read "wind" and "wheel" and which Giles naturally translates as wind-mill. By interpolating the character for fan, in another rendering we get the idea of winnowing. Dr Laufer shows that the wind-mill did not originate or exist in China prior to its introduction from occidental nations and is referred to in Chinese books, which he cites, as a foreign device. The peculiar cross-hatching on certain pieces he compares to similar markings on the mortuary pottery of Korea and Japan, which is supposed to be 1,200 years old or more. Judging from figures 1 and 5 and the color of the clay it is highly probable that the unglazed, lathe-turned mortuary vessels of Korea were derived from China, as a similar class of pottery in Japan was certainly derived from Korea. The rice pounder is a very ancient device judging from a Han example. The rice pounder to-day consists of a large mortar with a pestle on the end of a long lever. A man standing at the farther end of the lever presses it down by bearing his weight upon it, and, then, lifting his foot, the pestle, which is often weighted with stone, drops heavily into the mortar.

Vessels representing granaries with tiled roofs are shown, and, judging from the ridges, the tile consisted of imbrex and tegula, representing the oldest form of roofing tile known and the universal type to-day.

The dragon design leads to an interesting discussion as to whether it was pre-Buddhistic. Attention might be called to the *Institutes of the Chou Dynasty* (Gingell's translation), in which flag poles are figured with dragon-head terminations, also nobles' flags with two dragons intertwined. If the *Chou li* was really written in the Han period, which Dr Laufer says is suspected, then these allusions would have no weight in the argument. The old New England well-sweep was known in China 2000 years ago. I have seen the typical form in Satsuma and this simple device probably had many centers of origin. The forms of kitchen ranges discovered by Dr Laufer have survived until to-day. The pottery stoves on four legs are very curious. The slight observations I was able to make in the country about Shanghai and Canton revealed only the solid kitchen range, of a variety of designs, however, which I figured in my *Glimpses of China*. The projecting collar about the hole of the Han stove is also seen in the kitchen range of Canton. Portable cooking braziers, so common in China to-day, are also shown in the Han material. A primitive form of kitchen ladle made by splitting a long-necked gourd longi-

tudinally is represented in the Han pottery by devices of the same form. A tazza made of rough clay and unglazed, figured on page 122, is like a typical form found in ancient graves in Korea and Japan. A form of censer with perforated cover, known as *po shan lu*, or hill-censer is discussed at length. It originated in the Han period. A vessel, not remotely unlike the *po shan lu* in size and perforated cover, without the saucer however, is found in old Korean pottery, white and brown glazed.

Is it not possible that some of these objects were used as mosquito smokers, known in Japan as *kaibushi*? Dr Laufer speaks of them in one place as fumigators. Some of them might have been hand-warmers or *teburo*.

The figure of an oval sanitary vessel and its survival today in a square form is in an accordance with the persistence of many other devices in China and emphasizes the unchangeableness of the masses.¹

The triangular device of clay to support pottery in the furnace while baking is found in its simplest form among the Han objects. This simple device had a wide distribution in the eastern hemisphere in ancient times and survives today in the potteries of Japan, China, and Europe. It is a device of necessity and does not indicate community of origin.

Representations of dogs in figure and in relief among these mortuary objects lead to certain considerations regarding the breeds of dogs in China and their origin. One will find in the *Institutes of the Chou Dynasty* allusions to dogs as food. I quote the following: "If the dogs had their posteriors bare and red, and they were fleet of foot, the meat was deemed rank and of bad smell." The fat of the dog is often alluded to in the *Institutes*.

In discussing the influence of Siberian art and culture on ancient China Dr Laufer finds in the design of a horse in "flying gallop" evidence of its derivation from Turkish-Siberian sources; particularly does he mention the attitude of the mounted archer in shooting backward. In this connection it is interesting to note that in the fêtes given in honor of General Grant's visit to Japan, and which I was fortunate enough to witness, a tournament of mounted archers was the most unique. Three small targets were set up on poles, thirty or forty feet apart and perhaps fifty feet from the side of the road down which the archers in turn galloped at a furious rate, literally a "flying gallop." The archer shot at right angles to the direction of his motion. It

¹ Dr Laufer quotes from my paper on the *Latrines of the East* the statement that a certain pottery device sometimes served as a headrest or pillow. He says the statement in some respects seems erroneous. Some years ago Prof. F. W. Williams of Yale wrote to me as follows: "I am particularly pleased to find in your *Latrines* a reference (never before printed I am sure) to the portable stoneware urinals of China, which recalls my early childhood when an old groom of ours in Peking showed me one and declared that it made a mighty cozy pillow on a cold night."

seemed as if the archer could hardly have time to draw an arrow from his quiver which hung on his back before he would get by his target, yet one archer, having hit two targets in succession, waved the third arrow in bravado at the vast audience as he passed the third target, and then, quickly adjusting the arrow, shot backward and hit the target! Had he missed after this display he would have been justified in committing *harakiri*, and in feudal days would probably have done so. Dr Laufer observes the heavy stirrup with broad base of the Han period. The Japanese stirrup, though of an entirely different type, has a broad base in which the entire foot is supported, and this greatly assists the standing attitude of the archer in hunting or in warfare. Evidences are given which indicate that falconry was derived from Persia, while the game of polo originated in Turkestan.

Dr Laufer believes that the horse was brought to China by the Turks. In the *Institutes of the Chou Dynasty*, already alluded to, I find that six kinds of horses were distinguished as follows: thoroughbreds, chargers, horses of a color, roadsters, hunters, and commonbred. Allusions are also made to grooming, breeding, castrating, etc.

The absence of chairs, tables, and bedsteads has also been a marked characteristic of Asiatic nations with the exception of the Chinese, and in China one finds all these articles of furniture. The Chinese sit in chairs, have their meals at tables, though using chop sticks and eating out of communal dishes. May not this primitive method be a survival of the time when the family gathered about a common receptacle for food while sitting on the floor or ground?

Bas reliefs of the Han period show the absence of household furniture, and this leads Dr Laufer to an interesting discussion as to the origin of chairs, tables, etc., in China, and here again the author gives reasons for believing that these objects have been derived from the Turks. In the *'Institutes'* I find no reference to chairs, tables, or bedsteads, but there are references to five kinds of stools to lean upon—arm rests, literally. These arm rests are often represented in ancient Chinese pictures and are still surviving in Japan today. The five kinds of arm rests described are "(1) gems; (2) inlaid with imitation gems; (3) red-colored stool; (4) black-colored stool, varnished; (5) white plain unvarnished stools." Also makers of these objects are named in which the wood radical appears.

The ancient inscriptions on pottery and bronze will interest those who are familiar with Chalfant's valuable memoir on *Early Chinese Writing* published by the Carnegie Museum, Pittsburg.

Dr Laufer's comments are quite fair concerning the making of imitations in China. It is unjust in the foreigner to assert that there is a counterfeit

industry in China for the purpose of deceiving foreigners. In most cases these imitations are made exclusively for the Chinese, who readily know their character and buy them as such, just as we make furniture and other objects after old models—of pottery scarabs as paper weights, bronze objects with the green patina imitated, etc. These and other common examples are familiar to all and are not intended to deceive. The Japanese have two words for these kinds of objects, one indicating an imitation for the purpose of deceiving and another an honorable imitation in which the fabricator signs his name.

The numerous and beautiful examples of Han pottery figured in this book will certainly surprise students and collectors of early Chinese pottery who know their rarity. In Japan thirty years ago an attaché of the Chinese legation showed me a single example of Han pottery which was esteemed a rare and valuable object. I made a careful study of its clay and of the few remaining patches of its thin crackled glaze. When a few years ago there suddenly appeared in our market a number of large vases and other pieces purporting to be Han I could not believe such rare objects in such numbers could be genuine, and though a critical examination failed to reveal a fraudulent make, I wondered at the rare skill of the counterfeiter, despite the fact that the Chinese are past masters in this art. A paragraph in Dr Laufer's book explains for the first time the reason for the sudden appearance of these remarkable pieces. In his Introductory the author says:

"Specimens of this pottery first came to light, towards the end of the seventies, in Hsi an fu, according to the statements of the dealers in antiquities living there, and consequently no mention of it is made in the archaeological or ceramic literature of the Chinese. In the beginning, nobody cared for these pieces, and they were indifferently thrown away for a few *cash*, until, after some years, larger cargoes of them reached Peking, where they brought enormous prices among Chinese lovers of antiquity. Nowadays it is the unanimous opinion of all Chinese judges, that this pottery represents genuine and most precious relics of the Han time."¹

In summing up Dr Laufer expresses his conviction that the pottery of the Han dynasty originated in that period. He says (p. 212):

¹ The Museum of Fine Arts, Boston, has lately acquired through the efforts of Dr Okakura a remarkable collection of figurines and other objects of the Han dynasty. The curious head coverings, peculiar dresses, and, in one case, a broad-nosed figure with curly hair will interest the student of Chinese antiquities. In this collection is a hut urn and a cylindrical vessel made in imitation of a granary, in which is represented minutely the character of the tiled roof. The tegula is represented as a flat piece like the ancient Greek tile, though the curved tegula is represented in other examples. The collection also has a large number of the terminal or eaves imbrices with circular disc. It is hoped that these objects will soon be arranged for public exhibition.

"The pottery of the Han dynasty, from the view-point of technique and form, is doubtless a genuine and original production of Chinese culture. So far as this pottery represents imitations of actual objects, we have seen that these objects are true constituents of Chinese civilization, and existed in the period to which the pottery is to be ascribed. So far as it embodies vessels of a great variety of shapes, we have noticed that a great number of these can be traced back to forms in bronze and nephrite which were developed either during the age of the Han, or, for the most part and to the greatest extent, in ages much earlier, on Chinese soil. Of the remaining pieces which do not betray an affinity to forms in other substances, it may be asserted with perfect safety that they do not display any traces suggestive of foreign influence, but appear as thoroughly Chinese ceramic productions. Indeed, this entire pottery forms a well-defined group, which, in its character as pottery, bears no resemblance to any other known groups of ancient pottery in Asia, nor to that of Siberia or of Turkistan."

In Appendix One there is given a description of the roofing tiles of the Han. The circular discs which terminate the eaves imbrices are very interesting. The decoration in strong relief consists in most instances of characters quartering the circle and these have been translated as reading "Infinite like heaven," "Thousands and thousands of years without end," "Sublime peace to the numerous generations," "Long life without end," and similar sentiments. One is amazed at the possibility of translating the more obscure ones, particularly the disc represented on Plate LXVII, Fig. 1, a complicated mass of scrolls which are, however, rendered "May you always have good luck!" Dr. Laufer expresses the opinion that the decorative composition in concentric zones on these discs must have been derived from coeval metal mirrors. While this supposition may be correct I would point out that a circular area for decoration would naturally lead to concentric treatment. That the occurrence of four animals used in divination should be found on a metal mirror as well as on a tile does not seem strong evidence in support of his suggestion, as such animal symbols as well as sentiments and mottoes are widely used as decorative features on the most dissimilar objects.

In Appendix Two, Dr. Laufer describes a number of pottery objects which Mr. Frank H. Chalfant exhumed from Sung tombs in Shantung. Most of the forms closely resemble those made to-day. The oviform bottle figured on plate LXXIV, in form and glaze is identical with the wine bottle which one might find cast away in the ash barrel of a Chinese laundryman in this country. The Sung period takes us back eight hundred years or more and the persistence of these forms is one of the amazing characteristics of the Chinese. The two pieces figured on plate LXX resemble pottery with a light-cream colored glaze and rude decoration of brush strokes in brown that one meets with in Japan and which the Japanese antiquarian identifies

as Korean. Dr Frederick Hirth assured me that the pieces were made in China and were probably shipped in numbers to Korea from which country they found their way to Japan.

For those who believe that the culture of Middle America owes its origin to Asiatic contact the picture so graphically given by Dr Laufer of the culture of the Han period affords no evidence. Neither in the methods of pottery making, glazing of various colors; the triangular device for supporting pottery in the furnace, old-world-wide in its distribution, but singularly absent in the western hemisphere; nor in the potters' wheel and wheels of other kinds, even the pulley, can any resemblance be found in Middle America. So we might enumerate other features none of which do we find in the ancient culture of Middle America, such as roofing tiles, grain towers, grinding mills, water mills, mortars of various kinds, irrigating devices, well sweeps, decorative motives, knife money and other forms of money, cooking stoves, cross-bows, falconry, furniture, the forms of bronze vessels, and characters used in inscriptions.

In conclusion, I think the author will agree with me when I suggest that it would have added greatly to the usefulness of this unique work if there had been appended a bibliography of the subject. Even an alphabetical list of the numerous works he refers to in the text would have been welcomed. The importance of this addition would most likely have occurred to Dr Laufer had he been at home during the making of the book, but the last half of the volume was sent to press during his second visit to China. In such a bibliography he might well have included for the general reader Alfred E. Hoppisley's article entitled "A Sketch of the History of the Ceramic Art in China," published in the *Smithsonian Annual Report* for 1887-88, and again published in the Report of 1900. The more so as in this article the various Chinese dynasties are given with the chronology of the successive productions of pottery and porcelain, and for the added reason that these reports were freely distributed and are easily accessible to every reader. In such a bibliography also might have been included William Henry Gingell's *Translation of the Institutes of the Chou Dynasty*, B.C. 1121, a rare book but of surpassing interest as showing the ceremonial usages of the Chinese nearly a thousand years before the Han dynasty. If the *Chou li* was really written in the Han period Dr Laufer would have added greatly to the interesting assemblage of facts he has brought together regarding the customs of the period.

EDWARD S. MORSE.

Papuan Fairy Tales. By ANNIE KER. London: Macmillan & Co., 1910. 12°, pp. xi, 149. ill. (price, \$1.50).

The title of this book indicates a popular rather than a scientific interpretation of the term "fairy tale," some of the material included being properly myth, legend, and tribal story. The native name appears to be *Virarautua*, which is rendered by the English "folk-lore" (p. x). The author, who has known the people in question "for nine years, and for part of that time lived alone amongst them in a little mission bungalow," collected the tales "chiefly from the natives of a small village on the N. E. coast of Papua." The tales (given in English only) are: The two lizards (tells why the *tioba* tree leans toward the earth); How the turtle got his shell (it was once the wooden bowl in Binama's house); The man who left heaven (accounts for the origin of flying-foxes and their cries); Dabedabe the good (explains why men are spared and pigs slain when a feast is made); The dancing dame (the loud beat of waves on the coral is the voice of the blind woman's drum); The jungle boy (incidentally gives origin of sand-crab); How the flying-fish lived first in a tree (these fish still bear on their heads the marks of the coral thrown at them by the old man); The king of the snakes; The talking bananas (witch slain by man whose son she had killed); Kakukaku and Taureboga (tale of two brothers); How Wakeke defeated Arebo (contest between the smallest of the snakes and the king of the sea); The wise wagtail (story of a man with five wives); Why the men of Gavi will not eat fish (their ancestors were slain by Abaia for fishing in the waters of Wapogi); Manubada's bride (tale of the fair bride of Manubada, the great fish-hawk, and her restoration to her former lover); How the twins killed Manubada; The crane (how Uapanipani, the crane, restored the children to their father); Toroa, the song of the dead (story of the song which the dead sing on their way to their own land); The king of the fairies (tells how men came to eat of *uaoi*); The cockerel (how the cockerel obtained fresh fire, how he was captured by men, and how the bird-village became a place of desolation); How a man found his wife in the land of the dead (the dead have since closed the hole with a great stone, so none may enter to see and talk with them); Dakodako, the man-eater; The magic almonds (tells of the origin of burrowing crabs and why they flee into their holes at the sight of a man); The cassowary (taboo of cassowary flesh for women); Where the coconut came from (originally a man's head, the marks still there); Kapikoa, the black cockatoo (origin of cooking by women); The mouse and the butterfly (how the mouse was avenged); The man who could not be killed; The brush turkeys (origin of brush turkeys, and why they make nests of leaves and earth); The enchanted pillow (tale of a wooden pillow, to sleep on which

was death); The unlucky man (tale of two brothers and the strife caused by a woman); The snake child (origin of *itro*—from flesh of a snake); The ant and the pheasant (how the death of the hornbill was avenged); The boar-slayer; The man with the open throat (accounts for saying, "Eat first, and afterwards drink"); Borevui and her three brothers (tale of successive search by brothers for one another); The mud people (why mud houses are despised, and houses built of rei, as in the beginning); Why Wamirans are few (because the lad, driven away by his mother, turned to the west); The man without hands and feet (how he obtained those of Aidagagiogio, a great and terrible being); Gelaruru (tale of a man with two wives, one beloved and one not); The three sisters (youngest sister feeds snakes and is rewarded; others refuse and are destroyed). Scattered through several of these tales are a few lines of Papuan songs,—notable especially being the song of the dead. A favorite phrase in beginning is "In the old days," "Long ago"; a common ending seems to be, "Let us take a piece of yam and roast it and break it upon the head of —, for the tale is done."

As the author remarks, sorcerers and witches, who "are a very real feature in Papuan life to-day," have an important rôle in these stories, while cannibalism ("still indulged in by tribes out of reach of the Government,"—many of the coast tribes also, although they have relinquished the habit sigh still "for the good old days, 'when there was plenty to eat'") is still so near in thought as to be a prominent feature of not a few of them. In each story, "there was generally a little incantation or magic verse, and this was invariably chanted to an air which one might call the fairy tale *motif*, for it appeared with great regularity, linked, however, to very diverse words" (p. ix). The stories of Papuan folk-lore are told by old women to children and others; by young married couples, turn about, to one another in the dark of the moon; by the village elder around an open fire; and in the men's club-house before sleep overtook the members, etc. In the author's opinion "the tales exhibit to a marvellous degree the Papuan outlook upon life."

ALEXANDER F. CHAMBERLAIN,

The Dawn of the World: Myths and Weird Tales told by the Mewan Indians of California. Collected and edited by C. HART MERRIAM. Cleveland: The Arthur H. Clark Company, 1910. 9¼ x 6, pp. 273. (\$3.50 net.)

Though Dr Merriam's primary object is to familiarize the general public with the character of Californian mythology, the attention of the special student may well be directed to this new collection of folk-lore,—more particularly as the author has not hesitated to publish several versions of the

same myths and thus affords additional opportunities for studying the alterations undergone by essentially the same plot within the limits of a single stock. Some of the tales derive special value from the fact that they were collected from tribal groups now wholly or nearly extinct.

Part 1, by far the larger portion of the book, is devoted to "Ancient Myths,"—tales dealing with a mythical race of semi-human "First People," who assume animal form immediately before the advent of the historical Indians. The most important elements of Mewan mythology are conveniently summarized by Dr Merriam in some introductory pages (p. 17 ff.), where, however, the specifically Mewan points of fundamental importance are not separated with sufficient sharpness from elements of universal folklore and cosmological conceptions of minor significance. The acquisition of fire (or light) evidently plays a very prominent part in Mewan folk-lore. While in one fragmentary tale of the Wipa tribe a purely rationalistic explanation is offered (p. 136), the origin of fire is far more commonly accounted for by theft from another tribe or from a monopolizing owner. A minor element in this tale, noticeable by its persistence, is the explanation of the red spots on the body of the fire-bearer's descendants (pp. 33, 49, 50, 89f.) with characteristically primitive assumption of the inheritance of acquired characteristics. The origin of death is accounted for in the customary way. In the Wipa story (pp. 127-132), the Falcon kills his faithless wife, the Gray Goose, but afterwards relents and endeavors to restore her to life. His attempts are frustrated by the Meadowlark, whereupon the incensed Falcon pontifically decrees that henceforth men should die forever. Had it not been for Meadowlark's interference, people would have revived the fourth day after their death. The Northern Mewuk also ascribe the mortality of mankind to the Meadowlark's hostility, which prevented Black Lizard from reviving the first dead Indian (p. 55). The destruction of the world by fire as an act of revenge plays an important part. In a Hoolpoomne tale (p. 81) it is the fire of the slain giant Kelok that spreads devastation through the land, causing Kelok's enemy Falcon to seek refuge in the ocean. In an otherwise quite different story told by the Tuleyome (p. 144), the Falcon has stolen Weasel's shell money; Weasel sets the world on fire and endangers his enemy's life, until Falcon's grandfather, Coyote, causes a flood which extinguishes the conflagration. It is worth noting that in a fragmentary Olamentko story (p. 157) Coyote causes a deluge in order to annoy the Falcon. A relatively primeval flood is postulated by the Hookooeko (p. 203); Coyote appears on a raft of tule matting and split sticks, throws his raft-mat on the water, and thus creates the earth. The diving for earth does not seem to figure in Mewan mythology. Other elements which deserve mention are

the creation of men from feathers (pp. 84, 149, 203); the conception of Skunk as a powerful public enemy, ultimately overcome by a ruse (pp. 117-120); the existence of a gigantic bird (Yellokin) carrying off children, and, like the corresponding Nu'neyunc bird of the Shoshone, slain while drinking (p. 164); and the familiar tale of the Bear and the Fawns (pp. 103-109; 111-112).

In many of the myths, Coyote figures as one of the principal personages. Dr Merriam characterizes him, not quite felicitously, as "the Creator, a divinity of unknown origin and fabulous 'magic,' whose influence was always good"; the less favorable picture presented of him by the Wipa and Northern Mewuk is explained away as due to the influence of neighboring stocks (p. 18). To avoid misconstruction it should be noted that even in the myths of other tribes Coyote's ends are attained by trickery (p. 39, 84) and that the Middle Mewuk also emphasize his selfishness (p. 63).

Part 2, purporting to deal with "Present Day Myths," contains a mass of miscellaneous folk-lore, including beliefs concerning animals, ghosts, and fabulous beings. Of the latter, the Rock Giant (pp. 231 ff.) recalls the Shoshone cannibal that used to lie in ambush to catch women, carried them off on his back, and ate them up. The gigantic Dzō'avits of Shoshone mythology, besides picking up people and tossing them into their bags, are said to have lived in stone houses, and may thus be even more closely related to the Mewan giants.

A number of illustrations—mostly from original paintings by Mr E. W. Deming—form a pleasing feature of the book. The composition of some of them is naturally influenced by the somewhat nebulous character of the personages portrayed in the myths. The pictures of the Fawn and the Bear and of the flute-player putting the valley people to sleep bear the distinctive charm of the quaintly humorous.

ROBERT H. LOWIE.

Las Viejas Razas Argentinas: Seis Cuadros Murales: Texto explicativo.

By FÉLIX F. OUTES Y CARLOS BRUCH. Buenos Aires, 1910. Pp. 114, with 6 accompanying charts.

These six excellent charts, each of which contains illustrations of the natural environment, archeological remains, material life, psychic expression, family life, social organization, etc., of the people concerned, with portraits of natives and a map showing the position and extent of their habitat, etc., are intended for educational purposes, having been approved by the National Council of Education, as giving in graphic form the necessary information concerning the primitive peoples of the Republic. The six groups of Indians considered are: (1) *Peoples of the mountain-regions of the Northeast* (the

Diaguítas principally,—Atacamas, Omaguacas, Quilmes, Acalanios, etc.; also the Tonocotés, Sanavirones and Comechingones); (2) *Peoples of the selvas of the Chaco* (Mataco-Mataguayas, Chorotes, Tobas, Chiriguano); (3) *Peoples of the littoral of the great rivers* (Charrúas, Caingúas, etc.); (4) *Peoples of the pampas and llanuras* (Querandíes, Puelches, Araucanos); (5) *Peoples of Patagonia*; (6) *Peoples of Tierra del Fuego* (Onas, Yamanas or Yahgans). Each chart contains from 17 to 28 illustrations. The "explanatory text" is for the teacher and consists of a *résumé* of the ethnology of the peoples treated of with brief bibliographies for more detailed information. The illustrations in the charts are listed and explained by number in the text. This is something we might well copy in North America, for, if revolutions are so frequent to the South, more than one of the Latin Republics has always something to teach us in the way of scientific discoveries or their practical application from a pedagogical point of view. The authors are to be congratulated on what seems to be a good piece of work.

ALEXANDER F. CHAMBERLAIN.

Sumarios de las Conferencias y Memorias presentadas al XVII Congreso Internacional de los Americanistas, sesión de Buenos Aires 16 al 21 de mayo de 1910. Colección completa reunida por ROBERT LEHMANN-NITSCHKE, Secretario General del Congreso. Buenos Aires: Imprenta y Casa editora "Juan A. Alsina," 1910.

Dr R. Lehmann-Nitsche, general secretary of the Seventh International Congress of Americanists, held at Buenos Aires on May, 1910, has gathered together and published (with separate pagination for each) in a volume of more than 100 pages, the abstracts of all papers offered at the Congress. In cases where the abstract was not composed originally in Spanish, it is given both in that and the first language. The papers are distributed as follows: paleoanthropology 3; physical anthropology 5; linguistics 10; ethnology and archeology 31 (Mexico, C. America, and Brazil 3; Peru and Bolivia 6; Calchaquí 8; Chile 9; Chaco and Alto Paraná 5); general ethnology 6; colonial history 6,—a total of 61 communications. Among the authors of papers are Ameghino, Hrdlička, Ambrosetti, Mochi, Belmar, De Charencey, Lafone Quevedo, K. von den Steinen, R. Lenz, R. Lehmann-Nitsche, Adela Breton, H. von Ihering, E. Seler, M. Schmidt, M. Uhle, C. Bruch, T. Guevara, V. Frič, L. M. Torres, J. T. Medina, H. ten Kate, etc. According to F. Belmar the Otomi is not at all a "monosyllabic" tongue; the Comte de Charencey thinks the verb in Tzotzil is more archaic than in Maya proper; S. A. Lafone Quevedo advocates the pronominal method of classifying American languages; K. von den Steinen calls attention to a Ms.

Arte de la lengua Zamuca soon to be published; A. Echeverría i Reyes notes that the Atacaman or Cunza language is now completely extinct; R. Lenz reports that of some 2,100 words in Chilean Spanish of Indian origin 66 per cent are Araucanian (Mapuche), some 500 Quechuan, the others from various Indian languages; A. Saldías describes briefly a grammar and dictionary of the Pampa language composed by General J. M. de Rozas, 1828-1868; R. Lehmann-Nitsche advocates *Tshon* (of which he thinks *Ona* a corruption) as the appellation of the people now usually termed Onas. H. ten Kate treats of ethnographic painters in South America from A. von Humboldt to G. Boggiani, with some uncomplimentary reflections on Catlin; J. A. Domínguez and E. Autran refer to Mss. of Bonpland in the Botanical Institute of the University. Miss A. Breton finds high praise for the paintings and sculptures of ancient Mexico and Central America; M. Schmidt has also treated elsewhere of old Peruvian textiles; M. Uhle holds that in the region of Cuzco the succession of peoples has been Aymaras, *aillus* of Quechuan speech, *sinchis* (Incas of Sinchi Roca or Capac Yupanqui),—the first real Inca was the Inca Roca; J. B. Ambrosetti's account of the miraculous picture of the Virgin at Cuzco, has been already printed in another place; M. Uhle sees three periods of Calchaquí culture (type of the Abraconian vases of Andalgalá; type of older Calchaquí culture proper, as at Santa Maria, Amaicha, etc.; type contemporaneous with the Incas seen at La Paya), of which none has been absolutely independent of Peruvian influences (Tiahuanacan influences, *e. g.*, are met with in the old style of Santa Maria); Dr J. B. Ambrosetti makes the Pucará of Tilcara represent the northern limit in the Quebrada de Humahuaca of the culture-types of the south; Debenedetti holds that the culture of the prehistoric burial-places of "La Isla" marks the extreme south of a civilization independent of its Calchaquí and Atacameñan neighbors; Lafone Quevedo thinks that the Calchaquí wooden pipes are blow-pipes and the bunches of thorns associated with them poisoned arrows, as described, *e. g.*, by Diego Fernandez de Palencia; A. Oyarzún holds that the pre-Hispanic civilization of Chile was derived from Peru and its remains are to be found among the modern Araucanians; T. Guevara thinks Chilean "sacrificial stones" are of Peruvian origin, also that native plants of the *Nicotianas* were in use in Chile in pre-Hispanic times, but the *N. Tabacum* was introduced by the Spaniards; A. Oyarzún ventures the hazardous view that the rather unique petroglyphs of Llaima in the province of Cautín "belong to a civilization older than that of the Incas, perhaps to that of the Collas or Aymarás, or older still, to that of the Caribs"; T. Guevara points out that De Ercilla, in his famous poem, "has created customs, scenes, types and a psychology not belonging to the genuine Araucanian"; F. C.

Mayntzhausen points out the value of ceramic products as guides for the distribution of pre-Columbian Guarani culture, *e. g.*, in the Alto Parana region. F. Ameghino considers as 3 chief features of the lithic products of *Homo pampaeus*, the wedge-shaped hatchet and the two implements used in manufacturing it, the *yunque*, and the striker; G. Dillenius notes that artificial deformation gives to the Calchaqui skull a "pseudopithecoid" character; A. Mochi holds that outside of the Lagoa-Santa, Fuegian, Botocudo, etc., types, all the rest of the native population of South America present most frequently the hypsibrachycephalic type characteristic of the Peruvians, Calchaquí, etc.; of C. Marelli's monograph on Patagonian craniology, a portion has just appeared elsewhere as a detailed study of the sutures of the skulls of Argentinian Indians. The idea of publishing these *résumés* together, without waiting a year or two for the volume of the Proceedings of the Congress, is a good one.

ALEXANDER F. CHAMBERLAIN.

SOME NEW PUBLICATIONS

ALEXANDER, HARTLEY B. *Religious Spirit of the American Indian*. (Reprinted with additional illustrations from *The Open Court*, January and February, 1910.) Chicago, 1910. 9 × 6, pp. 51, ill.

AMBROSETTI, JUAN B. *Un Documento Gráfico de Etnografía Peruana de la Época Colonial*. Dedicated to the xvii Congress of Americanists. Buenos Aires: Imprenta y Casa Editora "Juan A. Alsina," 1910. 11 × 7½, pp. 27, 11 figures.

AMEGHINO, FLORENTINO. *Descubrimiento de dos esqueletos humanos fósiles en el pampeano inferior del Moro*. Buenos Aires, 1910. 11 × 7½, pp. 6.

AMEGHINO, FLORENTINO. *Descubrimiento de un esqueleto humano fósil en el pampeano superior del Arroyo Siasgo*. Buenos Aires, 1910. 11 × 7½, pp. 6.

BARRETT, S. A. *The Material Culture of the Klamath Lake and Modoc Indians of Northeastern California and Southern Oregon*. In *University of California Publications in American Archaeology*, vol. 5, no. 4, pp. 239-292, plates 10-25. Berkeley: The University Press, 1910. 10½ × 7.

BEAN, R. B. *Racial Anatomy of the Philippine Islanders*. Philadelphia and London: J. B. Lippincott Co., 1910. 8 × 5¼, pp. 236, 26 figures.

BROWN, GEORGE. *Melanesians and Polynesians: Their Life-Histories Described and Compared*. London: Macmillan & Co., 1910. 8¾ × 5½, pp. xv, 451, 70 ill. (Price \$3.00.)

CAMPBELL, T. J. *Pioneer Priests of North America, 1642-1710*. Vol. 2, *Among the Hurons*. New York, 1910. 9 × 6, pp. 333, ill.

CIPUENTES, JULIO VICUÑA. Mitos y supersticiones recogidos de la tradición oral. Primera serie: Mitos. In *Estudios de Folklore Chileno*. [Santiago], 1910. $7\frac{1}{2} \times 5\frac{1}{4}$, pp. 55.

DENSMORE, FRANCES. Chippewa Music. Bureau of American Ethnology, Bulletin 45. Washington: Government Printing office, 1910. $9\frac{1}{2} \times 6$, pp. xix, 216, 12 pls., 8 figs.

DIXON, ROLAND B. The Chimariko Indians and Language. In University of California Publications in American Archaeology and Ethnology, vol. 5, pp. 293-380, August 19, 1910. Berkeley: The University Press. $10\frac{1}{2} \times 7$.

DOWN, EDWIN A. The Sterilization of Degenerates. Read at the first annual meeting of the Connecticut State Conference of Charities and Corrections, March, 1910. 9×6 , pp. 14.

FARABEE, WILLIAM CURTIS. Some Customs of the Macheyengas. Reprint from the Proceedings of the American Antiquarian Society for October, 1909. Worcester: The Davis Press, 1909. $10\frac{1}{2} \times 6\frac{1}{2}$, pp. 7.

FOWKE, GERARD. Antiquities of central and southeastern Missouri. [With a report on Skeletal Material from Missouri Mounds, Collected in 1906-7 by Mr. Gerard Fowke. By Aleš Hrdlička.] Report on Explorations made in 1906-7 under the auspices of the Archaeological Institute of America. Bulletin 37, Bureau of American Ethnology, Washington, 1910. $9\frac{1}{2} \times 6$, pp. vii, 116, 19 pls., 20 figs.

FOY, W. Führer durch das Rautenstrauch-Joest-Museum (Museum für Völkerkunde) der Stadt Köln. 3 Auflage. Köln: Druck der Kölner Verlagsanstalt A.-G., 1910. $7 \times 4\frac{1}{4}$, pp. 293, ill.

GERSTE, A. Notes sur la médecine et la botanique des anciens Mexicains. Deuxième édition. Rome, 1910. $9\frac{1}{4} \times 6$, pp. 191.

HRDLÍČKA, ALEŠ. See FOWKE, GERARD.

KROEBER, A. L. The Chumash and Costanoan Languages. University of California Publications in American Archaeology and Ethnology, vol. IX, no. 2, pp. 237-271, Berkeley, 1910. $10\frac{1}{2} \times 7$.

LAUFER, BERTHOLD. Christian Art in China. Reprint from the Mitteilungen des Seminars für Orientalische Sprachen zu Berlin, Jahrgang XIII, Abteilung I, Ostasiatische Studien, Berlin, 1910. $9\frac{1}{4} \times 6\frac{1}{4}$, pp. 19, 11 plates, 11 figs., and 12 pp. of texts.

LAYAL, RAMON A. Del Latin en el folk-lore Chileno. (Tomo 1, Revista de la Sociedad de Folk-lore Chileno, entrega 1^a). Santiago de Chile, 1910. $9\frac{1}{4} \times 6\frac{1}{4}$, pp. 25.

LE CLERCQ, CHRESTIEN. New relation of Gaspesia, with the customs and religion of the Gaspesian Indians. Translated and edited, with a reprint of the original, by W. F. Ganong. Toronto, 1910. $9\frac{1}{2} \times 6\frac{1}{2}$, pp. 14 + 452, ill. map.

LENZ, RODOLFO. *Los Elementos Indios del Castellano de Chile, Estudio Lingüístico i Ethnológico*; Primera Parte, Diccionario Etimológico de las Voces Chilenas Derivadas de Lenguas Indígenas Americanas. (Publicado como anexo a los Anales de la Universidad de Chile.) Segunda Entrega. Santiago de Chile: Imprenta Cervantes, 1910. $9\frac{1}{2} \times 6\frac{1}{2}$, pp. 449-938.

LOTH, EDUARD. *Anthropologische Untersuchungen über das Hautlebenssystem der Polen.* (Separat-abdruck aus der Zeitschrift für Morphologie und Anthropologie, band 13, heft 1). Stuttgart, 1910. $9\frac{1}{2} \times 6\frac{1}{2}$, pp. 78-96, 1 pl.

LOWIE, ROBERT H., *ed.* *Notes Concerning New Collections.* In *Anthropological papers, American Museum of Natural History*, iv, pt. II, New York, 1910. $9\frac{1}{2} \times 6\frac{1}{4}$, pp. 269-337, pls. IV-VIII, figs. 1-42.

MALER, THEOBERT. *Explorations in the Department of Peten, Guatemala, and adjacent region. Motul de San José; Peten-Itza.* Reports of explorations for the Museum. *Memoirs of the Peabody Museum of American Archaeology and Ethnology, Harvard University*, vol. iv, no. 3, Cambridge, 1910. 14×11 , pp. 129-170, pl. 45, 46.

MATTHEW, J. *Two Representative Tribes of Queensland.* London: T. Fisher Unwin, 1910. $7\frac{1}{2} \times 5$, pp. 256, ills.

MCALPHER, GEORGE. *A Study in the Etymology of the Indian Place Name Missisquoi* (1906, pp. 104): *Addenda* (1910, pp. 39). Worcester: The Blanchard Press. $8\frac{1}{2} \times 5\frac{1}{2}$.

MITRE, BARTOLOME. *Catálogo razonado de la sección lenguas Americanas.* Buenos Aires, 1909-1910. 2v., $10\frac{1}{4} \times 6\frac{1}{2}$, pp. 412, 328.

MOORE, CLARENCE B. *Antiquities of the St Francis, White, and Black Rivers, Arkansas.* Part 1: St Francis River. Part 2: White, and Black Rivers. Reprint from the *Journal of the Academy of Natural Sciences of Philadelphia*, vol. XIV. $13\frac{1}{2} \times 10\frac{1}{4}$, pp. 255-364, pls. ix-xxviii, 74 figs., maps. Philadelphia, 1910.

NAVAHO. *Mozes bi naltsoq alsedihigi Godesziz holyehigi inda yistajinlli ba hani Mark naltsoq ye yiki-iscinigi. Tohatcidi enisoti dine bizadkyehgo ayila.* New York: American Bible Society, 1910. $8 \times 5\frac{1}{2}$, pp. 46; 19.

The books of Genesis and Mark in the Navaho language.

PARKER, ARTHUR C. *Iroquois Uses of Maize and other Food Plants.* University of the State of New York, Education Dept. Bull. No. 482, Albany, 1910. $9 \times 5\frac{1}{2}$, pp. 119, 31 plates, 23 text figures.

RIVET, P. *Recherches anthropologiques sur la Basse Californie.* (Extrait du Journal de la Société des Américanistes de Paris, nouvelle série, tome 6, 1909.) Paris, 1909. 11×7 , pp. 109, 17 figs., map.

RUTOT, A. *Revision Stratigraphique des Ossements Humains Quarternaire.* Première Partie, Les Ossements parisiens de Grenelle et de Clichy.

Extrait du Bulletin de la Société Belge de Géologie de Paléontologie et d'Hydrologie (Bruxelles), Tome xxiv (1910) — Mémoires. Bruxelles: Hayez, Imprimeur de l'Académie Royal de Belgique, 1910. $10\frac{1}{2} \times 6\frac{1}{2}$, pp. 123-187, 19 figures.

SAPIR, EDWARD. Yana Texts. Together with Yana Myths collected by Roland B. Dixon. In University of California Publications in American Archaeology and Ethnology, vol. ix, no. 1, pp. 1-235. Berkeley, Cal.: University Press, 1910.

SAVILLE, MARSHALL H. Contributions to South American Archeology. The George G. Heye Expedition. The Antiquities of Manabí, Ecuador. Final Report. New York: 1910. $12\frac{1}{2} \times 9\frac{1}{2}$, pp. (xvi), 284, 114 pl., map, 17 figs.

SEAGER, RICHARD B. Excavations of the Island of Psira, Crete.* In Anthropological Publications of the University of Pennsylvania Museum, vol. iii, no. 1. Philadelphia: Published by the University Museum, 1910. $10\frac{1}{2} \times 7\frac{1}{4}$, pp. 38, 9 plates, 19 text figures.

SELIGMAN, C. G. The Melanesians of British New Guinea. With a Chapter by F. R. Barton, C. M. G., and an Appendix by E. L. Giblin. Cambridge: At the University Press, 1910. $9\frac{1}{2} \times 6$, pp. 766, 79 plates, 50 text figures, 1 map.

SMITH, HARLAN I. The Archaeology of the Yakima Valley. In Anthropological Papers of the American Museum of Natural History, vol. vi, part i. New York: Published by Order of the Trustees, June, 1910. $9\frac{1}{2} \times 6\frac{1}{2}$, pp. 171, 16 plates, 129 text figures.

STREHLOW, CARL. Die Aranda- und Loritja-Stämme in Zentral-Australien. iii Teil, Die Totemistischen Kulte der Aranda- und Loritja-Stämme; i. Abteilung, Allgemeine Einleitung und Die Totemistischen Kulte des Aranda-Stammes. Dargestellt von Carl Strehlow, Missionar in Hermannsburg, Süd-Australien. Bearbeitet von Moritz Freiherrn von Leonhardi. In Veröffentlichungen aus dem Städtischen Völker-Museum Frankfurt am Main. Herausgegeben von Der Direction. 11×9 , pp. 140, 2 plates, 15 text figures, map.

VAN GENNEP, A. La Formation des Legendes. Paris: Ernest Flammarion, 1910. $7\frac{1}{4} \times 4\frac{1}{2}$, pp. 326.

WALKER, WILFRID H. Wanderings among South Sea Savages and in Borneo and the Philippines. London, 1909. $8\frac{1}{4} \times 5\frac{1}{2}$, pp. 254, ills.

[WEBER, REV. ANSELM, *et al.*] A Navaho-English Catechism of Christian Doctrine for the use of Navaho Children. St Michaels, Arizona: The Franciscan Fathers, 1910. $4\frac{1}{2} \times 6$, pp. 127.

WISSLER, CLARK. Material Culture of the Blackfoot Indians. In Anthropological Papers of the American Museum of Natural History, vol. 5, part 1. $9\frac{1}{2} \times 6\frac{1}{2}$, pp. 175, 8 plates, 103 text figures. New York: Published by Order of the Trustees, March, 1910.

ANTHROPOLOGIC MISCELLANEA

The Bourgeois Village Site.—Since the writer in conjunction with Dr H. J. Spinden of the New York Museum of Natural History wrote a paper on the Mandans in 1906, he has devoted considerable time to the further study of the Missouri river sites in North Dakota, and has had the opportunity of visiting a number of other sites, including one of the sites on Heart river, the Fort Clark Mandan sites, and the Knife river Hidatsa sites. This has given him increased familiarity with the general characteristics of the villages and furnished him with more complete resources for comparison. After the publication of Dr Libbey's article on the Burgois site the writer made further inspection of that site. This inspection was accompanied by a careful comparison of Dr Spinden's map, which was the result of some five weeks' work on the site, with that printed in the North Dakota State Historical Society's report.

The arguments advanced by Dr Libbey as proving the non-Mandan or the Hidatsa foundation of the site are as follows: first, that there is an absence of grouping about a common center, a lack of order or plan in the house arrangement; second, that the central open space, characteristic supposedly of the Mandan village, is absent; third, that the house rings have too great a depth for those of the Mandans; fourth, that there are piles of refuse scattered about the site and between the lodge rings, which he says is an Hidatsa feature.

There is considerable evidence given in *The Mandans* as to the Mandan foundation of this site, much of it bearing on the above points, which it seems that Dr Libbey failed to note. This evidence for the most part will not be repeated, and the facts here set forth will be mainly in the nature of further evidence and discussion.

In the absence of grouping about a common center the Burgois site does not differ from the Fort Clark site shown in the map accompanying Dr Libbey's article, where some fifteen houses only surrounded an open space while fully twice as many are scattered about promiscuously. It is stated that in the Mandan sites the door-ways all turn toward the central space, while at the Burgois site they face in any direction at random, and that that site shows no open space. As regards the door-ways, after a very careful examination of the rings at the Burgois site it was quite apparent that there are no clear signs of door-ways to be distinguished either as depressions or

elevations. It should be noted that the door-ways were built as wooden vestibules deeply covered with earth and sloping very slightly to the excavated floor level; hence one might as well expect to find a ridge or mound as a depression remaining. The surveyor who drew the map of the Burgois site accompanying Dr Libbey's article evidently recognized this uncertainty as to the door-ways, for we find six rings mapped with two door-ways and several with none at all.

As to the absence of the central enclosure, two large open spaces are marked in Dr Spinden's map, which on a careful reëxamination seems very accurate, and these are suggested as possible open squares in the Peabody Museum paper. The map in the North Dakota report shows one such possible location for an open square, and the house rings in the immediate neighborhood with one or two exceptions are drawn with doorways pointing as near to the center of this space as do those in the Fort Clark site map. This space is also as close to the center of the village as is that in the smaller of the two Fort Clark sites.

As regards the depth of house rings there are several points to be considered. In the first place the rings on the Burgois site are not in general of so great a depth as those on the Hidatsa sites on Knife river, nor are they deeper than those on the Fort Lincoln site which is recognized as Mandan. It must be borne in mind that all descriptions of Mandan house building state that the site of the house was always excavated to a depth of from one and one-half to two feet. Matthews in his work on the Hidatsa states that they sometimes excavated to get the proper sort of earth for a floor, distinctly implying that this was not always done. Thus it seems that a fair depth of the house ring should be a constant Mandan characteristic, whereas the Hidatsa ring would show no constant feature as to depth, varying according to local conditions. We find this corroborated in the Knife river Hidatsa sites where there is a considerable variation in the depth of house rings in the different villages.

The next point to be considered is that of the so-called refuse heaps or mounds. Dr Libbey states that the presence of these mounds scattered over a village site is a sure indication of a Hidatsa site. The Heart river sites, the Fort Lincoln site, and the Bolley site, every one considered to be Mandan by the North Dakota Society, all show mounds of very nearly the same size and number in proportion to the size of the site.

That these mounds are refuse heaps is merely an assumption. From a glance at Dr Spinden's map it is evident that nearly all the mounds, and all of the largest ones, are contiguous to either the inner or outer ditch, or at some distance beyond the ditches. They are frequently of regular shape,

and excavation shows that while considerable refuse is present by far the greatest bulk of the material is earth. To the south of the large mound marked "A" in Dr Spinden's map is a depression which suggests at a glance that earth had been taken from it to construct the mound. Furthermore the bluff on the river side for several hundred feet discloses debris and refuse to a depth of from four to six feet, as if this had been the natural place for casting refuse when it was not needed in building fortifications.

It is an historical fact that the Fort Clark sites were not occupied as long as the Heart river ones, and also that the Mandan became more careless in the building of fortifications in their later years. This would account for the small amount of refuse present there in mounds, and also for the lack of mounds such as appear in the older sites. Furthermore the Hidatsa sites on Knife river were occupied much longer than the Fort Clark sites, and would naturally show more refuse, of which their inhabitants were perhaps not as careful in their disposition as the Mandan. A study of one of the above Hidatsa sites shows a marked difference from the Burgois site in the general character and arrangement of the mounds.

Another point of considerable importance as showing the Mandan characteristics of the Burgois site lies in the fact that from the large mass of animal bones collected in excavation there there was not a single bone of the dog. This point was mentioned in the Peabody Museum paper. Dr Libbey calls especial attention to the fact that, while the Hidatsa had dogs in great numbers, the early Mandan did not have them at all. It seems highly improbable that, if dogs were as plentiful as described among the Hidatsa, no dogs should die and their bones be mingled with the other refuse, even if the animals were not eaten.

It has been stated by several observers that the Hidatsa and Arikara made pottery inferior to that of the Mandan, and a personal inspection seems to bear out this conclusion. While the Hidatsa and Mandan types approximate in the extent of design and fine workmanship, a walk over an Hidatsa and a Mandan site will convince anyone that the great bulk of broken pottery seen around the Hidatsa site is much inferior to the bulk of that about the Mandan site. There is, however, no Mandan pottery in the North Dakota Historical Society rooms which is superior to that described in the Peabody Museum paper and now on exhibition in the Peabody Museum.

In regard to the identification of the site from the Lewis and Clark journals, further investigation seems to strengthen its validity. Inquiry has brought out the fact that a large island did exist within recent times at the point mentioned in the identification, and upon it there were trees of such size as to assure its existence there long before the coming of Lewis and Clark

A trip past the site in a boat will assure anyone of the absolute impossibility of failing to see the site and be impressed by it. Tradition and information gleaned from the older Indians, while always somewhat unreliable as every archeologist knows, might, however, be of some value could any such be secured on the point under discussion, but none of the older Hidatsa or Mandan when questioned can tell anything about this site so far as has yet been learned.

Taking into consideration the facts here given concerning the arguments against the Mandan foundation of the Burgois site, together with the evidence given in favor of it in *The Mandans*, and the further points in favor mentioned above, it is to be hoped that the site shall continue to be considered as Mandan until more valuable and cogent arguments are advanced against the hypothesis.

G. F. WILL.

THE first number of the *Journal of the American Institute of Criminal Law and Criminology*, dated May, 1910, has made its appearance. It is to be the organ of The American Institute of Criminal Law and Criminology established as an outgrowth of the National Conference on Criminal Law and Criminology held in Chicago in June, 1909. The Editor-in-Chief is James W. Garner, Professor of Political Science in the State University of Illinois, Urbana, Ill., and the Editorial Director, Harvey C. Carbaugh, Colonel and Judge-Advocate, U. S. A., Department of the Lakes, Chicago, Ill., who are assisted by eighteen Associate Editors. The initial expenses have been met by twenty-five gentlemen in Chicago and New York. The subscription price is three dollars per year, sixty cents per number. The main headings under which the contents of the first number of this journal are arranged are: Editorials, Articles, Bulletins of the Institute, Current Notes and Memoranda, Judicial Decisions and Statutes, Current Bibliography. The articles are: Anglo-American Philosophies of Penal Law (I), by Thomas Hill Green; Criminal Statistics in the United States, by Louis N. Robinson; The Individual Study of the Young Criminal, by William Healy; Medical Expert Testimony; Methods of Improving the Practice, by William Schofield; Technicalities in Criminal Procedure, by John Davison Lawson; The Money Cost of Crime, by Warren F. Spalding; and The Bill to Establish a Criminological Laboratory at Washington, by Edward Lindsey.

DR G. B. GORDON, Director of the University of Pennsylvania Museum, has arranged a series of lectures on the "History of Mankind," to be given on Saturday afternoons. The first of these was on December 3, and was by

Dr George G. MacCurdy of Yale University, whose subject was the "Antiquity of Man in Europe." Other lectures in the series so far as arranged are: January 7, F. F. Ogilvie, of Cairo, Egypt, "The Pyramids of Gizeh"; January 14, Dr Alfred M. Tozzer, of Harvard, "Picture Writings and the Beginnings of the Alphabet"; January 21, Miss Edith H. Hall, of Mt Holyoke College, "Ancient Crete and the Pre-Greek Civilization of the Ægean"; January 28, Dr Albert Lecoq, Director of the German expedition to Turkestan, "The Ancient Civilization of Turkestan"; February 4, Dr W. Max Müller, "The Ancient Egyptians"; February 18, Miss Stone, of the British School at Athens, "The Ancient Greeks and their Mythology"; February 25, Miss Stone, "The Acropolis of Athens"; March 4, Dr Edward Sapir, Ethnologist in Charge, of the Geological Survey of Canada, "The Origin of Spoken Languages"; March 11, Dr Franz Boas, of Columbia, "Environment as a Cause of Variations in Man's Physical Structure"; March 18, Dr A. A. Goldenweiser, of Columbia, "The Institution of Totemism."

UNDER the provisions of the Indian Museum act of 1910, the ethnological and art collections have been separated from those of economic products, and in his last report of the museum as originally constituted, the curator, Mr I. H. Burkill, has, says *Nature*, given a useful account of its past history and present condition. The museum was first started by the Asiatic Society in 1814, the first donor being the Countess of Loudoun. The collections have passed through many vicissitudes, due to the absence of suitable accommodation. Under the present scheme of reorganization they have at last been placed upon a satisfactory footing. The ethnological gallery now contains about 11,000 exhibits, but it still lacks a proper descriptive catalogue, which can be prepared only by a competent ethnologist. The progress of the art series has been stimulated by the patronage of Lord Curzon, who provided an annual state grant of about £400 for the purchase of specimens. Most of the older economical exhibits have perished, but these are being gradually replaced. These collections are now being arranged in suitable galleries.

STARTING from September 1, 1910, the Canadian government has undertaken to provide for the systematic study of the native races, cultures, and languages of Canada. The work has been put under the charge of Dr Edward Sapir, formerly Instructor in Anthropology at the University of Pennsylvania, and is meant to include field research, publication, and exhibition of ethnological and archeological specimens. In other words the work is meant to be parallel in scope, though on necessarily a much smaller scale, to that of the Bureau of American Ethnology and U. S. National Museum. Dr Sapir's official title is that of Ethnologist and Anthropologist of the

Geological Survey of Canada; as soon as opportunity allows, it is intended to add to the ethnologic scientific staff. As a first move towards systematic ethnologic and linguistic field work under direct Dominion auspices, Dr. Sapir has been spending the fall of 1910 in studying the Nootka of Vancouver Island.

THE following Public Lectures are announced for the season of 1910-1911, by the Department of Archaeology, Phillips Academy: Oct. 27, The Painted Desert and the Cliff-Dwellers, by W. K. Moorehead; Nov. 17, Mammoth Cave, Kentucky, by Dr H. C. Hovey; Dec. 1, Mounds and Fortifications, by W. K. Moorehead; Dec. 15, Indian Song and Dances, by Miss B. Mayes; Jan. 12, The Folk-lore of New England, by C. Peabody; Jan. 26, Glimpses of China and Chinese Homes, by Professor E. S. Morse; Feb. 2, Totems and Totemism, by C. Peabody; Feb. 16, Explorations in Central South America, by Dr Wm. C. Farabee; Mar. 9, Chief Joseph's Retreat, Dr Charles A. Eastman; Mar. 23, The Earliest Man in America, by C. Peabody.

DR A. HRDLÍČKA, of the U. S. National Museum, has returned from a six month's expedition to Argentine and other parts of the South. The principal objects of the expedition, carried on under the auspices of the Smithsonian Institution, were a study of man's antiquity in Argentina, in which he was associated with Mr Bailey Willis, of the U. S. Geological Survey, and of the coast people of Peru. Dr Hrdlička also attended the sessions of the 17th Congress of Americanists at Buenos Aires and Mexico as a delegate of the United States Government and of the Smithsonian Institution and was a vice-president at both.

A NEW report of the discovery of a tribe of pygmies in New Guinea has appeared in the London *Times*, and is accredited to the expedition sent by the committee of the British Ornithologists' Union to explore the snow mountains in Dutch New Guinea. According to the statement of the newspaper correspondent quoted in *Science* the pygmies were found at an elevation of about 2000 feet. Their average height is about 4 feet 3 inches. It is assumed that this tribe is connected with the Negritos.

BRITISH ASSOCIATION GRANTS.—The following grants were made for anthropological researches by the British Association for the Advancement of Science at the Sheffield meeting: To Dr R. Munro, for the Glastonbury lake village site, £5, and for the study of the artificial islands in the Highland lochs, £10; to Prof. J. L. Myres, for excavations on Roman sites in Britain, £10; for Mr C. H. Read, for studies of the age of stone circles, £30, and for "Anthropological Notes and Queries," £40.

DR EUGEN OBERHUMMER, Professor of Historical and Political Geography, in the University of Vienna, delivered three lectures at the Johns

Hopkins University on November 14, 15, and 16. His subjects were: "Developments and Methods of the Geography of Man," "Races and Peoples of Europe," "Principal Geographical Features of Austria and Hungary." The second of these subjects was also taken up by him in an address before the Washington Academy of Sciences on December 5.

ON Oct. 18 M. Capitan, Professeur au Collège de France, gave an address before the Anthropological Society of Washington entitled *Aperçu sur l'Archéologie Préhistorique de la France*. Nov. 15, Mr George R. Stetson spoke before the society on "New England Life in Old Almanacs" and Dr Aleš Hrdlička on "An Ancient Sepulcher at San Juan Teotihuacan, with Anthropological Notes on the Teotihuacan People."

At a joint meeting of the American Ethnological Society and the Section of Anthropology and Psychology of the New York Academy of Sciences held October 24, 1910, Dr Robert H. Lowie read a paper on the "Ceremonial Organizations of the Crow Indians." On November 22, Mr Paul Radin read a paper before the Ethnological Society on "Ceremonial Organizations of the Winnebago Indians."

IN the program for the thirty-third free lecture course of the Field Museum of Natural History, are the following: October 22, Japanese Mythology as Represented in their Archeology, by Dr William Elliot Griffis, Ithaca, N. Y., and Dec. 3, The Indians of the Province of Esmeraldas, Ecuador, by Dr S. A. Barrett, Curator of Anthropology, Public Museum, Milwaukee, Wis.

DR FRANK G. SPECK, Instructor in Anthropology at the University of Pennsylvania, spent the summer among the Penobscot Indians of Maine supplemented by a hurried trip to the Malecites of New Brunswick among whom Mr Mechling, a graduate student in anthropology at the same university, carried on investigations throughout the summer.

"IN order to combat much irresponsible criticism of Esperanto" Mr Arthur Baker, editor of *Amerika Esperantista*, with offices at 700 E. Fortieth St., Chicago, Ill., has had prepared 100,000 brief grammars of the language in pamphlet form, and will send one free to any person who is sufficiently interested to ask for it, enclosing stamp for reply.

MISS MARY LOIS KISSELL, of the American Museum of Natural History, has left New York for an extended period of field observations among some of the Indian tribes of the Southwest. Miss Kissell will devote her time to a study of the basketry and textiles of these tribes, paying especial attention to the origin and significance of designs.

MR PAUL RADIN has returned to Washington from several months work among the Winnebago Indians of Nebraska, and Dr Michelson from a pre-

liminary investigation of various Algonquian dialects, including the Blackfoot, Arapaho, Cheyenne, Menominee, and Micmac.

DRS GODDARD and Spinden, of the department of Anthropology of the American Museum of Natural History, attended the Congress of Americanists in Mexico City, after which Dr Spinden again took up his work among the Rio Grande Pueblos of New Mexico.

THE Museum of the University of Pennsylvania has obtained a photographic copy of *The Book of Chilam Balam of Chumayel* which is now being compared carefully with the manuscript copy made by Dr Berendt in 1868 also in the possession of this museum.

PROFESSOR FREDERICK STARR, of the University of Chicago, left the United States on December 22 for Korea, where he will make a study of the inhabitants. Mr Manuel Gonzales, his companion on previous trips of this kind, accompanied him.

MR M. R. HARRINGTON has returned to the University of Pennsylvania from Oklahoma with an extensive ethnological collection, obtained largely from our former southern tribes. Among the objects are more than a hundred sacred bundles.

THE Rev. J. Ogle Warfield, of the University of Pennsylvania, made a trip to the Pamunkey and Mattopony Reservations in July and also another one in November, gathering some important data and also some interesting specimens.

DR ROBERT H. LOWIE, of the American Museum of Natural History, has been working during the past summer among the Crow Indians of Montana and the Hidatsa and Mandan of the Fort Berthold Reservation, North Dakota.

PROFESSOR F. W. PUTNAM, of Harvard University, and Dr J. G. Frazer, of the University of Liverpool, have been elected honorary fellows of the Royal Society of Edinburgh.

MR R. R. MARETT has been appointed Reader in Sociology and Anthropology in Oxford University, Professor E. B. Tylor having resigned last winter.

MISS SHARLOT HALL, the author of several ethnological papers, has been appointed official historian of the Territory of Arizona.

THE first annual meeting of the Institute of Criminal Law and Criminology was held in Washington, D. C., on October 1.

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No. 4

AN AZTEC "CALENDAR STONE" IN YALE UNIVERSITY MUSEUM

By GEORGE GRANT MacCURDY

THIS valuable stone was bought of Orrin Brothers and Nichols, proprietors of a show called the "Aztec Fair, Mexico Past and Present." The purchase was made in 1887 by Professor O. C. Marsh of Yale University at a sheriff's sale in New Haven, Conn., where the "Aztec Fair" was showing at the time; and the stone was given by Professor Marsh to the Peabody Museum of Yale University in 1898. In the printed "Guide to the Aztec Fair," the piece in question is described at No. 101 as "The 'temalacatl' (gladiator's stone). This stone, with a hole through the centre and covered with curious hieroglyphics, is one that victims destined to be sacrificed were fastened to by the arms or limbs, a rope passing through the hole securing them. They were also used for the following purpose: Two of these stones were placed a few feet apart and a warrior fastened to each by the ankle. They were then compelled to fight one another until one or both were killed. There are only three of them known to exist—one at the National Museum in Mexico city, one in the institute at Oaxaca, and the one in our possession, which was lately unearthed in the valley of Mexico. Consequently this relic is without price."

This statement does not specify which stone in the National Museum of Mexico and which in the institute at Oaxaca is to be compared with the Yale specimen. It is comparable with the great Aztec Calendar stone (*Calendario azteca*) of the Mexican National Museum although much smaller than the latter and differing in

detail; also with the stone of Tizoc. Taking advantage of the meeting of the International Congress of Americanists in Mexico city during the past summer, the author had photographs made of the Yale specimen; and through the courtesy of Director Garcia and Dr Paul Henning of the Museo Nacional was able to compare these photographs with certain originals including the two just mentioned. He is also much indebted to Professor Eduard Seler of Berlin, who made a special visit to New Haven in order to pass on the authenticity of the specimen, and to Mrs Zelia Nuttall, of Coyoacán.

The Yale specimen measures $54.6 \times 45.7 \times 25.6$ centimeters, each face being rectangular. The five visible faces bear figures in relief. The bottom is simply dressed to an approximately plain surface. The material is a rather hard, somewhat porous volcanic rock. There is a central vertical perforation lined with a brass¹ tube that reaches from the top to a point about ten centimeters from the bottom. At the top the inside diameter of this brass tube is 5 centimeters, while at the lower end it is only 3.5 centimeters. The wall of the tube has an average thickness of four-tenths of a centimeter. From the lower end of the tube to the bottom of the stone the perforation expands into a cylindrical chamber with a diameter of about twelve centimeters. As no two of the three dimensions of the stone are equal, for the sake of convenience, its six rectangular faces can be referred to as top, bottom, sides, and ends.

The most interesting face is the top with the sun's disk in relief, the latter forming a perfect circle 43.2 centimeters in diameter (plate XXXI). In the center surrounding the metal-lined hole is the sign *olin*, which signifies movement. Outside this sign are two concentric zones each bearing a circle of thirty-three nodes or raised disks. These occupy the same relative position on the face of the sun as do the twenty day-signs of the great stone in the City of Mexico. Then follows the zone of the four cardinal points or beams, the bases of the latter being separated by spaces, each ornamented with four annular disks alternating with three groups of parallel bars, three in each group, resembling triglyphs. These occupy the

¹So determined by Dr C. H. Mathewson of the Hammond Metallurgical Laboratory. The tube is evidently post-Columbian.



UPPER SURFACE OF THE YALE AZTEC "CALENDAR STONE"

With a representation of the historic sun and hieroglyphs of the four prehistoric suns.

same relative position as the forty quincunx patterns to be seen on the Aztec Calendar. The two motives are derived from the same original. Another derivative, that serves as a connecting link between the two foregoing, is to be seen on the four sides of a painted stone chest (fig. 45) in the Museo Nacional and reputed to have been

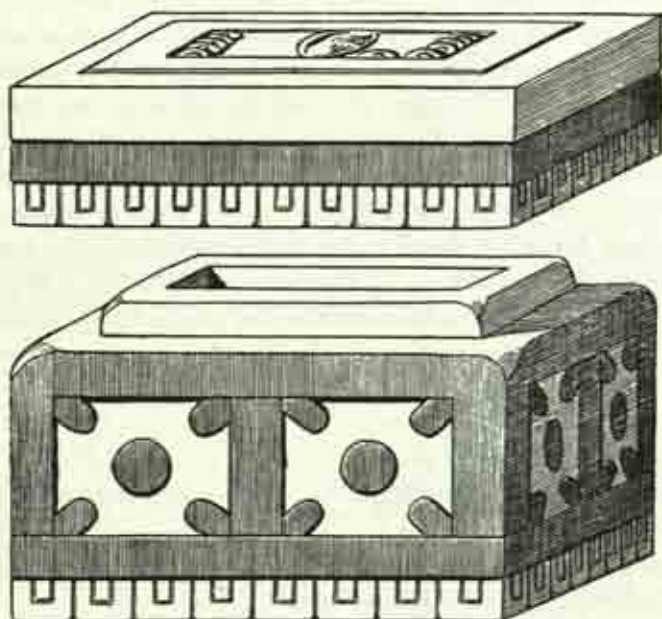


FIG. 45.—Stone chest with lid, supposed to have come from Texcoco. Museo Nacional de Mexico. After Seler, *Gesammelte Abb.*, II, 743, 1904.

found in Texcoco;¹ and still another on the sun's face of the *quauhxicalli* of Tizoc (plate XXXII).

The outer zone with its four secondary or diagonal beams, eight groups of arches or scallops, four in a group, eight tower-like structures and sixteen annular disks, although much simplified, is also similar to the outer zone of the Aztec Calendar; the two encompassing serpents, however, and the sign *mallactli omei acatl*, "thirteen reed," the birth year of the historic sun, are lacking.

The arches of the outer zone represent feathers and the disks, eyes. These elements and the cardinal points and diagonal beams

¹ Eduard Seler. *Gesammelte Abhandlungen* II, 743, 1904.

generally enter into Mexican representations of the sun's disk. Beyond the latter in the four angular fields are the symbols for the four prehistoric suns which in the Aztec Calendar are to be found in the four spokes of the sign olin.

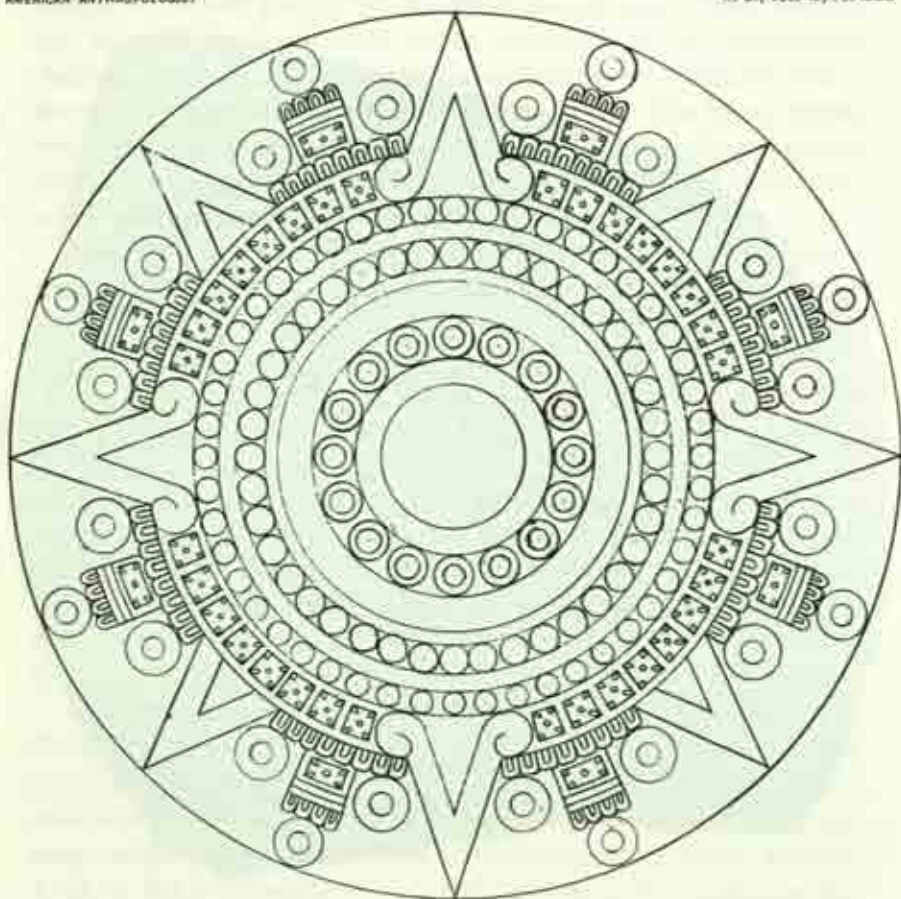
The orientation of the Aztec Calendar of the Museo Nacional is not difficult because of the face or mask at the center and the two encircling blue feather snakes (plate XXXIII). As these are both lacking in the sun stone of Yale University Museum, I have oriented the latter by the sign olin, and the signs of the four prehistoric suns. The sign olin is bilaterally symmetrical when divided either vertically or horizontally. In placing its handles on the sides where they belong there would still be two possible orientations. One of these, however, would cause the hieroglyphs of the four prehistoric suns to be inverted. I have chosen the other. Beginning therefore at the upper left hand corner and proceeding in a direction opposite to the movement of the hands of a watch we have the following:

1. *Nani ocelotl*, "four Jaguar."
2. *Nani eecall*, "four Wind."
3. *Nani quiauhtl*, "four Rain," i. e. Rain of Fire.
4. *Nani atl*, "four Water."

These are the symbols of the following four prehistoric suns:

1. *Ocelotonatiuh*, "the Jaguar sun."
2. *Eecatonatiuh*, "the Wind sun."
3. *Quiauh-tonatiuh*, "the Rain sun."
4. *Atonatiuh*, "the Water sun."

Ocelotonatiuh came to an end through darkness and the fall of the heavens, at which time the people were devoured by jaguars. According to the belief of the Mexicans it was a great jaguar that by devouring the sun caused its eclipse. Eecatonatiuh was destroyed by a great hurricane, the people of the time being turned into monkeys. The destruction of the third prehistoric sun, Quiauh-tonatiuh, was caused by a rain of fire, the evidences of which were to be seen in volcanic phenomena so common in Mexico. Atonatiuh perished by means of a flood and the people were turned into fishes. Only after the successive annihilation of these four prehistoric suns did the present sun, fifth in the series, appear. This took place in



REPRESENTATION OF THE SUN ON TOP OF THE SACRIFICIAL STONE OF TIZOC, MUSEO NACIONAL DE MEXICO

After A. Peñafiel, *Monumentos del Arte Mexicano Antiguo*, vol. II of plates, p. 300, 1890.



AZTEC CALENDAR, MUSEO NACIONAL DE MEXICO

After A. Peñahuel, *Monumentos del Arte Mexicano Antiguo*, vol. II of plates, p. 312. 1890.

the year *matlactli omei acatl* represented by the number thirteen and the sign reed. The date symbol occurs between the tails of the two serpents on the Aztec Calendar. The following year, *ce tecpall*, "one flint," is reckoned by all peoples speaking the Aztec tongue as the first year of the present or historic era. They believe the historic sun is destined to be destroyed by an earthquake (*tlalolin*). It is therefore called *Olintonatiuh*, "the Earthquake sun" and its day-sign is *nauī olin*, "four movement." The latter recurs every 260 days and with it the impending danger of destruction by a great earthquake, which the people seek to ward off by holding a four days' solemn fast.

My orientation of the Yale stone of the sun gives the same sequence for the four prehistoric suns as that in the Museo Nacional specimen except that in the latter, one must begin at the upper right-hand instead of the upper left-hand.

The only other Mexican stone monument bearing these four symbols is a cubical stone that was found in the City of Mexico (Centro Mercantil) and which is now in the Museo Nacional. Here according to Seler the same sequence is given. The symbols, however, are placed one on each of the four sides (plate xxxiv) instead of on the top. All the heads face the corner that divides the date *nauī ocelotl* representing *Ocelotonatiuh*, the first prehistoric sun, from that of *nauī atl*, symbol of *Atonatiuh*, the fourth sun.

The top of this cube where one would expect to find *Olintonatiuh*, the fifth or historic sun, is not sculptured at all. At its center is a somewhat squarish pit covering forty-seven by thirty-four centimeters and about thirteen centimeters deep. The size of this pit suggests that the block might be an unfinished stone chest, without a lid, or else a *quauhxicalli*. Certain elements that compose the disk of the historic sun are not lacking, however, for they form a sculptured band that is carried around the four sides just above the four prehistoric sun symbols. The upper part of this band corresponds to the zone on the Aztec Calendar that is filled with a quincunx pattern; its counterpart in the Yale specimen being the zone of triglyphs alternating with annular disks. The lower part of the band is the simple feather ornament corresponding to the

outer zone of the sun's face both in the Aztec Calendar and the Yale stone where the same motive is employed.

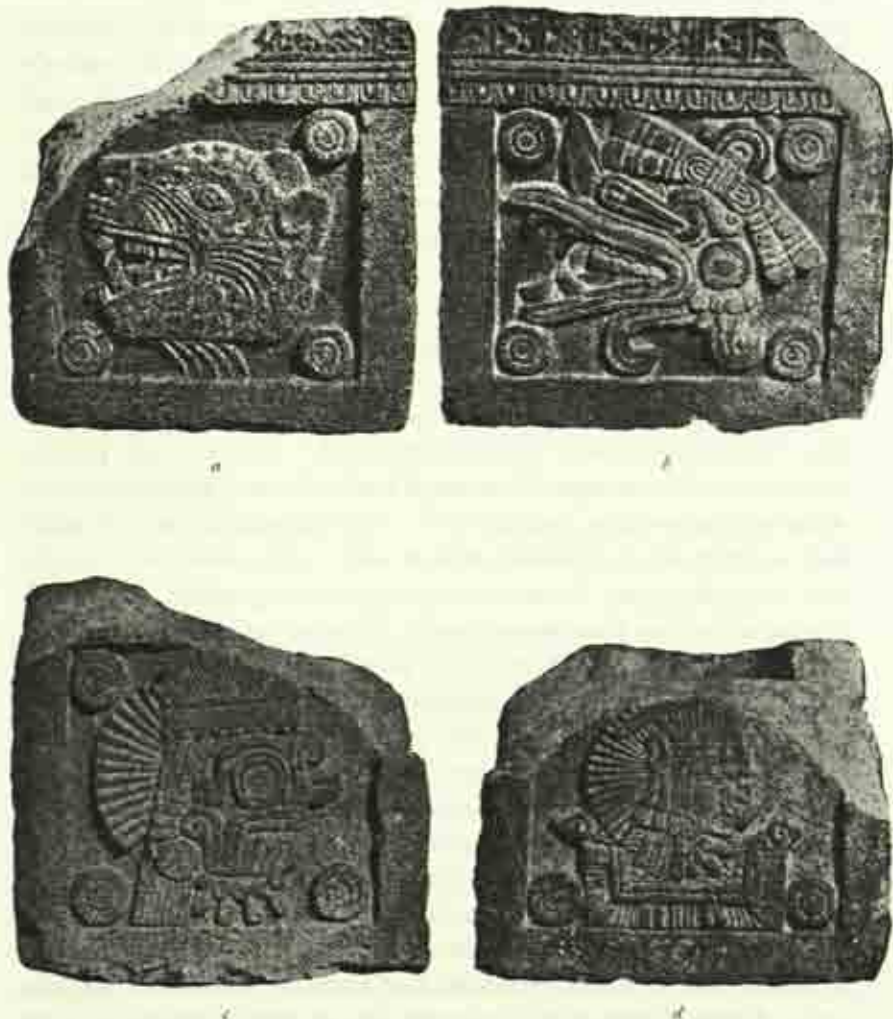
A version of the story of the four prehistoric ages is given in Codex Vaticanus A, otherwise known as Codex Vaticanus No. 3738, or Codex Rios. The sequence, which differs slightly from that in the stone monument, is as follows:

1. Atonatiuh, "Water sun."
2. Eecatonatiuh, "Wind sun."
3. Quiauhatonatiuh, "Fire sun."

The first of these prehistoric ages (Atonatiuh) is represented on the back of page 4. At the top *Chalchiutlicue* descends from heaven in a flood of water that spreads over the face of the earth. On the lateral margins of this mass of water are waves each terminating in a drop of water. A man and woman escaped to repopulate the earth. This is the catastrophe that turned men into great fishes (*tlacamihin*), two of which are swimming in the water. The duration of the period, 4008 years, is indicated by the number signs at the left. Above these is the word *apachihuilliztli*, meaning "inundation"; and on the right the day-sign, "ten water," giving the date of the catastrophe. At the bottom is the figure of a giant, "*tzocuillicxeque*."

Eecatonatiuh.—On page 6 the wind-god is descending in the form of a serpent and with his coming, men are changed into monkeys. A single human pair escaped within a rock (*dentro d'una piétra*). Near the bottom of the group are two hieroglyphs of the wind-god (*Eecatl*). The *ecatococ* at the lower left-hand corner signifies: "one is driven or destroyed by the wind" (*eca* = wind, *toco* = one is destroyed). The branching, scroll-like figures represent the cyclone or whirlwind. The duration of the period, said to be 4010 years, is expressed in the upper right-hand corner. On the left is the sign "one dog," the day of the cyclone.

Quiauhatonatiuh.—On the back of page 6 is portrayed the rain of Fire. *Xiuitcotli*, the god of fire, is descending in the form of a serpent. At each side the mass of flames is differentiated into triple tongues of fire. The avian forms are humming-birds, representing the souls of warriors. This period lasted 4801 years, terminating on the day nine movement. One man and one woman were saved by hiding in a cavern.



CUBICAL STONE WITH SYMBOLS OF THE FOUR PREHISTORIC SUNS.

a. *Nauiccelotl*, "four Jaguar"; symbol of *Ocelotonatiuh*, "the Jaguar sun." b. *Nauicceatl*, "four Wind"; symbol of *Escanatonatiuh*, "the Wind sun." c. *Nauicquauhtli*, "four Rain"; symbol of *Quiauh-tonatiuh*, "the Fire sun." d. *Nauicatl*, "four Water"; symbol of *Atonatiuh*, "the Water sun." Museo Nacional de Mexico After Selser. *Gesammelte Abh.*, II, 835, 1904.

A fourth age is depicted on page 7, but it does not seem to be Ocelotonatiuh, that was destroyed by darkness and the fall of the heavens, which according to Seler is represented by the giant on the back of page 4 beneath the picture of Atonatiuh. The principal figure is *Xochiquetzal* descending from heaven with flowers (*Sochiquetzal idest essaltatione delle rose*). After this period had lasted 5042 years, a great famine is said to have intervened when nearly all the people perished. The cause of this calamity was vice. Seler suggests that this represents the historic age or that of Olintonatiuh.

One other record of the four prehistoric eras was recently published by Dr Walter Lehmann,¹ an anonymous Mexican text, dated 1558, giving the interpretation of pre-Spanish picture writings.

The sculptured pattern on the four sides (plates xxxv and xxxvi) of the Yale stone of the sun is unevenly divided into two zones representing the heavens. The narrow upper zone is decorated with three horizontal rows of raised disks and is separated from the zone below by two horizontal bars. Two distinct motives are recognizable in the lower zone. One motive consists of the symbol that Seler calls *Sternauge* or *Strahlauge*—a central eye (*ixtli*), the outspread wings of the butterfly, three beams each ending in an eye and alternating with radiating flint knives (*tecpatl*). According to Preuss this represents *Itzpapalotl*, a type of *Tzitzimimé*, the demon of darkness, descending from heaven. This star-eye or *Itzpapalotl* is repeated six times, once at each end and twice on each side. It alternates with a large symbol of flint knife (*tecpatl*). The latter therefore occurs twice at each end and once on each side. It is provided with jaws showing teeth, and an eye.

The other motive consists of what might be considered a feather ornament, like that in the outer zone of the sun's disk only simpler, and the four corner pilasters that terminate below in what seems to be a simplified feather or eye ornament, most clearly seen in plate xxxv, a. These pilasters may be comparable with the tower-like structures in the outer zone of the sun's disk and the pedunculate eyes on the cylindrical bowl (*quauhxicalli*) of the Museo Nacional.

These same motives seen on the four sides are also found on

¹Die Historia de los Reynos de Colhuacan y de Mexico, *Zeitschr. für Ethnol.*, xxxviii, 752, 1906.

the convex sides of the Aztec Calendar (plate XXXVII, *a*), only on a smaller scale in the latter; since the cylinder of which the sun's disk forms the head is only 18.5 centimeters high. There is for instance only one row of raised nodes, then the two bands, below which hang

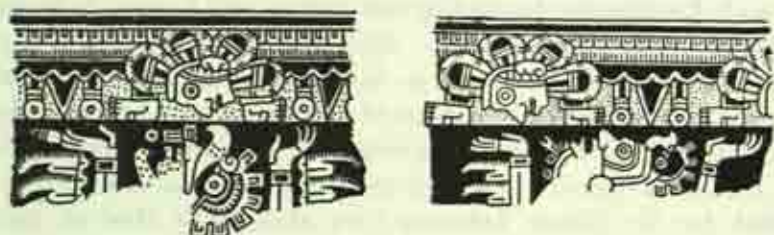


FIG. 46.—Details of painted border decoration, east wall of side court, Palace I, Mitla. After Seler, *Ges. Abh.*, III, 403, 1908.

the star-eye symbols, each one alternating with two flint knives, the latter facing each other in every case. At the bases of these is a plain continuous band in low relief corresponding to the scalloped band on the sides of the Yale stone, which is presumably a repetition of the outer, or feather zone in representations of the sun's disk. With the exception of the zone of raised nodes, we find the same design (figs. 46 and 47) employed as a border decoration on painted walls

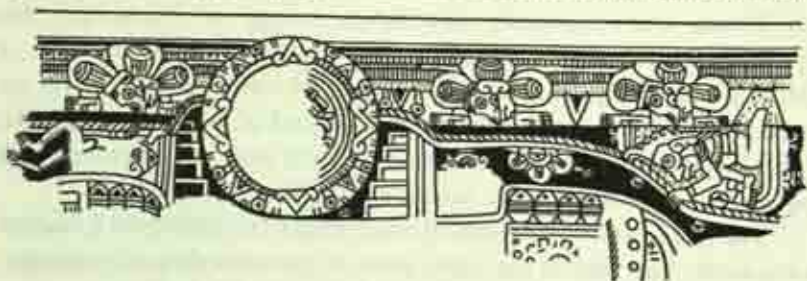


FIG. 47.—Detail of painted border decoration, north wall of side court, Palace IV, Mitla. After Seler, *Ges. Abh.*, III, 403, 1908.

at Mitla.¹ Here the feather motive is emphasized and combined not only with pedunculate eyes but also with beams similar to the diagonal ones in representations of the sun; the itzpapalotl symbol is inverted, and instead of an eye there is the head of a deity, representing the planet Venus.

¹ *Op. cit.*, III, 403, figs. 18-20 (also fig. 15c)



a



b

VALE AZTEC CALENDAR STONE

a, upper end; b, lower end.



YALE AZTEC CALENDAR STONE

a, left side; b, right side.

The sculptured designs on the ends and sides therefore should be looked upon as a unit just as if the stone were a cylinder (figure 48). Bearing this in mind, also that the top face is oriented in such a manner as to make *naui ocelotl* appear at the upper left hand, or perhaps more properly speaking in the northwest corner,



FIG. 48.—Ensemble of the top and four sides of the Yale Aztec "calendar stone" in their exact relation.

we find that the six large flint knives are turned so as to face toward the *itzpapatl* symbol in the center of the lower end and away from that in the center of the upper end.

While the Yale stone of the sun has many points in common

with the Aztec Calendar of the Museo Nacional as regards not only the sun's disk but also the lateral decorations, it is also comparable with the so-called sacrificial stones or bowls (*quauhxicalli*) of which the stone of Tizoc (Museo Nacional) is the most notable example. This cylindrical stone, two and one-half meters in diameter by four-fifths of a meter high, was unearthed in 1791, at a point opposite the Empedradillo and near the cathedral of the City of Mexico. On its top is a sculptured image of the sun (see plate xxxii) at the center of which is an oval pit fifteen centimeters deep by forty-six centimeters in diameter, instead of a hole completely penetrating the rock. A groove (not indicated in plate xxxii) leads from this pit out to the margin and part way down the side but does not completely drain the pit. The decoration on the convex sides is composed of three zones, the upper and lower combined not being quite so broad as the one in the center. The latter consists of fifteen groups of figures, each group representing a victor and the vanquished. In each case the victor is clothed in the garb of *Tezcatlipoca*, recognized by the smoking mirror on the temple and by a cloud of smoke replacing the left foot. These warriors also wear the scalloped breastplate of the fire-god and the *yacaxiuilli*, the nose ornament of *Tonatiuh ilhuicac yauh*, the warrior who falls in battle. The bowed figure before each *Tezcatlipoca* warrior represents a subdued city or country—fifteen in all, each indicated by the nature of the garb worn and the accompanying hieroglyph.

Previous writers have pointed out that the group on the front of the stone directly opposite the groove that leads from the center of the sun's disk is distinguished from the others in that the *Tezcatlipoca* warrior has a richer feather head-dress, the hieroglyph behind him being that of Tizoc, seventh of the Mexican kings, who according to the Codex Mendoza, ruled from 1482 to 1486.

The narrow upper zone is decorated with a variation of the *itzpapatl* ornament, representing the heavens (see plate xxxvii, b). Its counterpart is seen on the sides and ends of the Yale specimen and on the convex sides of the Aztec Calendar (text-figure 48 and plate xxxvii, a). The decoration of the lower zone is intended to represent the earth, or that which is beneath the heavens.

There is another monument (plate xxxviii) in the Museo Nac-



a



b

DETAILS OF CALENDAR AND SACRIFICIAL STONES

a, Detail of lateral relief ornament on the Aztec Calendar; b, Detail of lateral relief ornament on the sacrificial stone of Titoc. From photographs made by the Museo Nacional de Mexico expressly for this article.



a



b

LARGE STONE SACRIFICIAL BOWL: MUSEO NACIONAL DE MEXICO

a, side; b, bottom. After Seler, *Gr. Abb.* II, 812, 1904.

ional that in some respects resembles still more closely our stone of the sun. It is a cylindrical sacrificial bowl (*quauhxicalli*), with a diameter of 1.05 meters and a height of 0.47 meters. This is a real bowl or vessel having a depth of twenty-nine centimeters with nothing left of the top save a narrow border, which as might be expected is ornamented with the outer zone of the sun's disk. The ornament on the convex sides is almost identical with that on the rectangular sides and ends of our stone of the sun—three horizontal rows of raised disks at the top, and two horizontal bands near the middle, below which are elaborate *itzpapalotl* symbols alternating with pairs of pedunculate eyes. On the lower external flat surface of this bowl is a figure of *Tzontemoc*, the earth toad, in an appropriate setting of larvæ, insects, scorpions and other creeping things, to which are added several death masks. On each cheek of *Tzontemoc* is the *tlaxapochtli*, the caoutchouc ring, which is the insignia of the earth goddess (*Teteoinnan*),¹ or the *Tlaçolteotl* of the picture writings. The fleshless teeth hold a flint knife, symbolizing the light that the earth not only absorbs but also reflects.

There is another sacrificial bowl almost identical in shape and decoration with the foregoing, except that the bowl is reduced to a mere pit leaving more space for the sun's disk. A typical bowl-shaped *quauhxicalli* (plate XXXIX) of relatively small size and fine workmanship belongs to the Royal Museum für Völkerkunde, Berlin, and has been fully described by Professor Seler.² The whole interior represents the sun's disk at the center of which is the sign *nauí olin*, four movement, symbol of the present, or historic sun. Here again the lower external flat surface is reserved for an

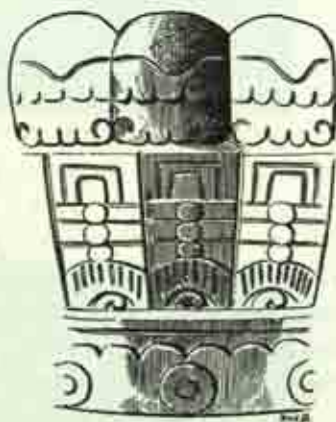


FIG. 49.—Detail of relief decoration on the outer wall of a sacrificial bowl. Königl. Mus. für Völkerkunde, Berlin. After Seler, *Ges. Abb.*, II, 707, 1904.

¹Seler, *Ges. Abhandlungen*, II, 469, 812, 1904.

²Op. cit., II, 701, 1904.

elaborate representation of the Earth toad, Tzontemoc, accompanied by numerous death symbols. The outer sloping walls of the bowl¹ are decorated with a chaplet of eagle feathers and hearts (plate XXXIX, *b*; also text-fig. 49).



FIG. 50. — Sacrificial bowl. Codex Borbonicus 8. After Seler, *Ges. Abh.*, II, 705, 1904.

Sacrificial bowls similar to those in Berlin and in Vienna are figured in ancient Mexican codices. Two such are reproduced from Codex Borbonicus (figs. 50 and 51). Both have the chaplet of eagle feathers, above which is a chaplet of hearts; one is overflowing with blood, indicating thereby the use to which it was put.

In the description of the eighteen annual festivals of the Mexicans, Father Sahagun mentions for the first time the bloody sacrifice ritual and the name of the bowl destined to receive the heart of the victim, *i. e.*, the vessel from which the gods ate. The heart of the victim was called *quauhnochtli*, cactus fruit, on which the eagle feeds. The priest dedicating it lifted it toward the sun. After having thus been offered it was placed in the *quauhxicalli*. The body however was cast down from the steps of the pyramid.

Human sacrifice is said to have taken place on the great *quauhxicalli* of Tizoc, the victim being designated as "Messenger to the Sun." Father Duran² describes this sacrifice as follows: "There was in this land an order of knights whose profession was war, willing to die in defense of their country and very courage-

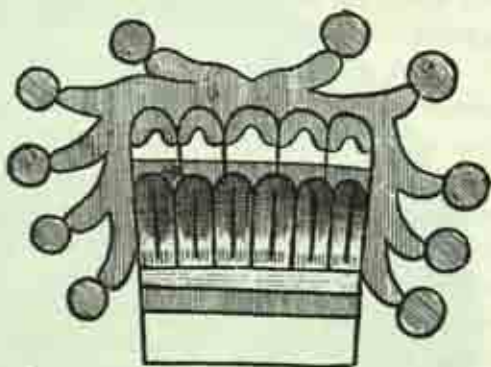
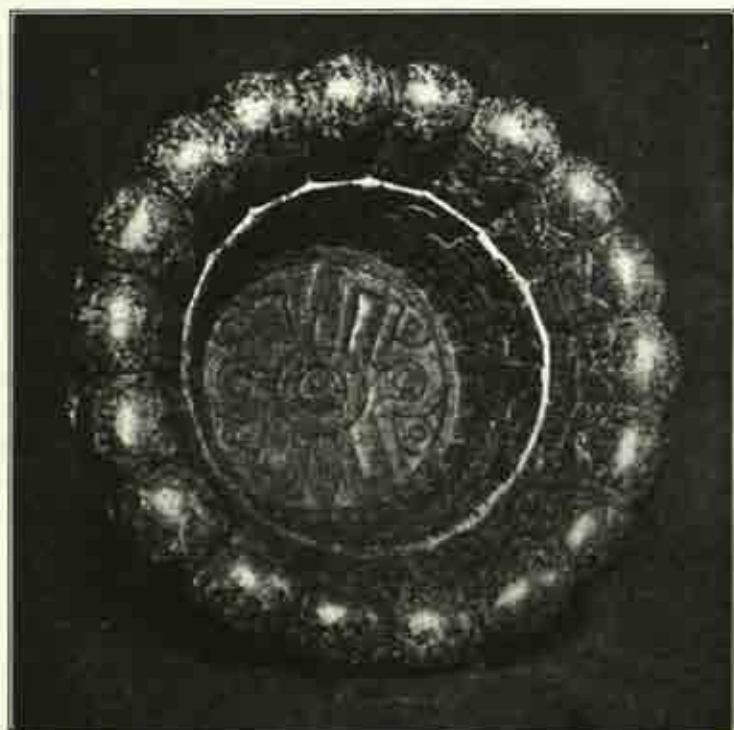


FIG. 51.—Sacrificial bowl overflowing with blood. Codex Borbonicus 18. After Seler, *Ges. Abh.*, II, 705, 1904.

¹ A *quauhxicalli* similar to the one in Berlin is to be seen in the Philip A. Becker collection, k. k. Naturhist. Hofmuseum, Vienna.

² *Historia de las Indias de Nueva España etc.*, II, 155, 188.



a



b

STONE SACRIFICIAL BOWL (QUAUHXICALLI), KÖNIGL. MUSEUM FÜR VÖLKERKUNDE, BERLIN

a, inside; b, outside. After Seier, *Ger. Abb.*, II, 707, 708, 1904.

ous, who looked upon the sun as their god, as the Spaniards look upon Santiago, the glorious. All who belonged to this order were illustrious people, and valorous sons of the better class, people of the lower class not being admitted no matter how valiant; and so the festival of these noblemen made in honor of their god, the sun, which feast they called *nauholin*, which means *four movement*, under which name they solemnized it. . . . This festival they celebrate twice a year; the first time on the seventeenth of March; and again, the second of December—in short the two times in the year which coincide with four movement.

"This order of knights had its temple and private house curiously wrought with many halls and rooms where they assembled and worshiped the image of the sun and since all were married and had their private houses and estates, they had in those rooms and houses of that temple their prelates and elders whom they obeyed and by whose orders they were ruled. Here also were a great number of boys, the sons of gentlemen, who were in training for that order of chivalry. And so they taught them there and instructed them in every kind of combat with every kind of arms which they were wont to use, which order I imagine to be like the orders of the knights (commendadores) of Spain, as for instance those of San Juan or those of Calatrava or of Santiago, bearing different emblems in order to distinguish themselves one from another; so according to the rank which they had in this order of chivalry, they may be called the knights of the sun, whose device they carried when they went to war. This temple of the sun was in the same place where now they are building the cathedral of Mexico city which they called fittingly (por excelencia) *Cuacuauhtinchan*, which means the house of the eagles, which name of eagle or tiger they used metaphorically to honor the men of valorous deeds; and so by calling that temple the house of the eagles it was the equivalent of saying the house of the valiant men, comparing metaphorically their valor to that of the eagle, or that of the tiger, because the eagle is among all birds most valiant and the tiger among all animals, the most brave and ferocious. Upon the top of this temple there was a medium sized chamber next to a courtyard (*patio*) which was of seven or eight *braças* (braza = 6 ft.). At one side of this courtyard was the cham-

ber I spoke of, in which over an altar was hung on the wall an image of the sun painted with a brush on the tapestry, which figure was in the likeness of a butterfly with its wings; and around it a circle of gold with many rays and splendors which came out from it; all the rest of the room being very much adorned and elegant. For ascending to this room there were forty steps more or less.

"In this temple were performed all the ceremonies as in the others, for example to sprinkle incense upon this image four times during the day and night, and to make and perform all the rites of offerings and sacrifices which were performed for the other gods, for which they had their priests and dignities with all the preëminences and privileges that the rest had, who solemnized this festival in the following manner: In the first place during this day all the people of the city had to fast so strictly and rigorously that it was not even permitted to the children or sick to break their fast until the sun in its course marked high noon, at which moment the priests and ministers of that temple took shells and trumpets and made a signal for the people to gather at the temple. Hearing this the people came together with much more zeal and promptness than now they come to mass on Sunday. The people having assembled, at the sound of the instruments they brought forth from among those taken in war accompanied and surrounded by illustrious men, an Indian. His legs were painted with white stripes (*enbixadas de mas rayas blancas*) and half of his face with red; a white feather was fastened in his hair; he carried in his hand a very fine staff with knots and ties of leather and some feathers inserted in it. In the other hand he held a shield with five small bundles of cotton on it; on his back he carried a small pack in which were eagle feathers, pieces of ochre, or gypsum, candlewood smoke *y papeles rayados con ele*. Of all these gewgaws they made a small bundle which that Indian carried on his back and they put him at the foot of the temple steps, and there in a loud voice so that all the people, who were present, heard it, they said to him: Sir, we entreat you that you go to our god, the sun, and that you salute him from us and tell him that his sons and knights and chief men, who remain here pray him to remember them and that from above he favor them; and that he receive this small present which we send him and that you give

him this staff with which he may walk and this shield for his defence, with all the rest you carry in this pack. The Indian, having heard the message, answered that it pleased him, and they untied him and straightway he began to ascend through the temple, going up little by little, pausing a long time after each step. When he had reached the top he approached the stone which they call *cuauhxically* and mounted upon it, which as we have said bore an image of the sun. Standing there, he turned toward the image of the sun which was hung in the room above that altar and, from time to time turning toward the true sun, in a loud voice he delivered his message. Having finished this message there came up by the four stairways which as I said this rock had, four priests of the sacrifice; and they took away from him the staff, the shield and the load which he carried and they held him hand and foot; the chief priest approached with knife in hand and cut the victim's throat, commanding him to go into the other life with his message to the true sun; and they caught the blood in that basin which, by means of a groove or canal, emptied itself before the chamber of the sun, and the sun which was delineated on the rock was drenched with that blood. All the blood having left the body, he opened the breast and took out the heart; and raising his hand presented the heart to the sun, holding it aloft till it became cold, and thus ended the life of the unfortunate messenger of the sun."¹

The term *quauhxicalli* is thus applied not only to the bowl that received the heart of the victim but also to the stone on which the sacrifice was made. Both are decorated with sun symbols and eagle feathers. Seler believes the word *quauhxicalli* to be derived from *xicalli* (bowl) and *quauh* (wood) *i. e.*, a bowl made of wood. Later the meaning might easily have been changed into eagle bowl, for *quauh*, or, with the article, *quauhtli*, likewise means eagle. The constant association of attributes of the eagle with this class of monuments is sufficient ground for interpreting the word as eagle bowl.

The only symbols on the Yale stone of the sun that are not common also to the *quauhxicalli* are the signs of the four prehistoric ages; four Jaguar, four Wind, four Rain, and four Water. In this

¹ Translated by Prof. F. B. Luquiens.

respect it resembles the Aztec Calendar, but since the twenty day-signs are lacking it is not a calendar stone in the strict sense. Morphologically it is a link between the calendar stone on the one hand and the quauhxicalli on the other. As such it might well have been associated with human sacrifices to the sun.

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A BRIEF DESCRIPTION OF THE TEWA LANGUAGE

By JOHN P. HARRINGTON

THE study on which the following notes are based was made as a part of the linguistic survey of the Pueblo area conducted by the School of American Archaeology, in collaboration with the Bureau of American Ethnology. The Tewa language is spoken at the pueblos of San Juan, Santa Clara, San Ildefonso, Nambé, Pojoaque, and Tesuque, all of which lie in the Rio Grande basin about twenty miles northwest of Santa Fé, New Mexico; and also at the Tusayan village called Hano or Tewa, in Arizona. The dialectic variations are slight. Tewa belongs to the Tanoan linguistic stock according to Powell's classification.

Tewa speech is excessively nasal and much broken by the glottal stop. Like Chinese, it makes use of "tones." There are 45 distinct "individual sounds"; twelve of these sounds are vowels and may be long or short. The language has been voluminously recorded by means of a scientific alphabet. In this outline more awkward and less accurate orthography is employed.

There are five classes of sounds. An inverted period after a symbol indicates that the sound which it represents is long. The letters have their standard "continental" values unless otherwise indicated. 1. Orinatal (i. e., "nasalized") vowels: aⁿ, aⁿ, æⁿ (Eng. man, nasalized), æⁿ, eⁿ (Fr. close e, nasalized, eⁿ, iⁿ, iⁿ, ɔⁿ (Eng. water, nasalized), ɔⁿ, oⁿ (Fr. close o, nasalized), oⁿ, uⁿ, uⁿ. 2. Oral vowels: a, a', e (Fr. close e), e', i, i', o (Fr. close o), o', u, u'. 3. "Semivowels": γ (Eng. you, but fricative), wⁿ (Eng. w, nasalized), w (Eng. w). 4. Larynx consonants: h (audible breath), h (harsh laryngeal h), hw (harsh laryngeal h with simultaneous rounding of the lips), ' (glottal stop). 5. Oral consonants: k (South Ger. k), k' (glottally affected k), k^h (aspirated k), gⁿ (almost Eng. finger), g, kw (k with simultaneous rounding of the lips), ɲ (a peculiar short nasal sound made by retracting the tongue and simultaneously opening the nose passage), t (South Ger. t), t' (glottally affected t), t^h (aspi-

rated t), dⁿ (Bantu "nd"), ρ (l-like r), ts, ts' (glottally affected ts), s, tš (Eng. *chew*), tš' (glottally affected tš), s (Eng. *she*), n, ñ (Sp. *mañana*), p (South Ger. p), p' (glottally affected p), p^h (aspirated p), bⁿ (Bantu "mb"), v (bilabial v), m.

Vowels are glottally broken in two ways: (1) The glottis is instantaneously closed when about half the vowel has been pronounced, written, e. g., a^a; (2) The glottis is instantaneously closed when about three quarters of the vowel has been pronounced, written, e. g., a^u. The sounds gⁿ and g, dⁿ and g, ρ, bⁿ and v interchange according to sentence phonetics. The sound l occurs only in foreign words and in the word meaning butterfly in the San Ildefonso dialect (polamimi). Syllables all have the structure: consonant + vowel = *n*. ^h occurs before k, k^h, kw, t, t^h, ts, s, tš, š, p, and p^h when a vowel precedes. Unanalyzable "roots" consist of 1, 2, 3, or 4 syllables. Stress accent is distinguishable in some polysyllabic roots only, e. g., t'ówa, people; and as sentence stress.

The "tones" contain the elements of "pitch," "leap," and "duration." There are three "pitches": (1) sentence- or mid-pitch, (2) below sentence-pitch, and (3) high above sentence-pitch. There are two "leaps": (1) level or slightly rising, and (2) falling. As regards duration, there are two vowel lengths as noted above. The "tones" are in Tewa as necessary to the understanding of a word as they are in Chinese. Common words are frequently distinguished from one another by "tone" only. Thus: p'o' (low falling long), water; p'o' (mid falling long), trail; p'o' (high level long), moon; p'o (high level short), head; p^ho (low falling short), hole; p^ho (mid level short), snow; p^ho (high level short), hair; etc., etc. The scientific writing of the "tones" requires special symbols which are placed after the vowels. The writing of the "tones" is omitted in this outline for typographical reasons.

There are many "parts of speech," each of which behaves differently, and for which we have in English no satisfactory nomenclature. Perhaps they may all be reduced to "nouns," "pronouns," "verbs," and "modifying elements."

The governing "part of speech" is the pronoun, which expresses personality, and together with the verb forms a complete sentence expressing several or all of the following categories: (1) self or non-

self; (2) position or direction; (3) state of being animal, vegetable or made thing, or mineral; (4) oneness, duality, or state of being three or more; (5) exister in position or mover in direction, actor upon, acted upon, actor upon self, exister or mover in relation to which exister exists or mover moves, exister or mover in relation to which actor acts upon acted upon. See account of the prefixed pronoun below.

There are six classes of words which can be called nouns:

1. Age-sex nouns. There is formal distinction of singular and 2+ plural. Appositive pronouns distinguish singular, dual, and 3+ plural. Thus: *seⁿn* (mid falling long), man in prime, 2+ plural *seⁿnnæⁿ*; 'enuke, boy, 2+ plural 'eⁿnuⁿeⁿ *ñæⁿ*.

2. A numerous class of nouns denoting animal personalities. Number is not formally distinguished. But appositive pronouns distinguish singular, dual, and 3+ plural number. Thus: *ke'* (mid falling long), bear.

3. A numerous class of nouns denoting vegetal personalities, made objects, body-parts, and some mineral objects. Number is not formally distinguished. But appositive pronouns distinguish singular, dual, and 3+ plural number. Thus: *te'* (low falling long), cottonwood tree; *seⁿn* (low falling long), horn (body-part).

4. A numerous class of nouns denoting mineral personalities. Number is not formally distinguished. But appositive pronouns distinguish: (1) singular and 3+ plural collective, and (2) dual number. Thus: *k'u'* (low falling long), stone.

5. Numeral nouns. These denote number. They are mostly used as first members of noun plus noun compounds; appositive pronouns agree with the second member of such compounds, expressed or understood. Thus: *poye*, three; *si*, six; *siseⁿnnæⁿ* (compound noun), six men. The numeral system is decimal.

6. Adjectival nouns. These are most frequently either compounded or coupled by means of peculiar connective particles which we have termed couplers, with other nouns, expressed or understood, with which appositive pronouns agree. If the other noun belongs to class 1 or 2 the coupler is singular 'i, dual 'iⁿ, 3+ plural 'iⁿ; if the other noun belongs to class 3 the coupler is singular 'iⁿ, dual 'iⁿ, 3+ plural 'iⁱ; if the other noun belongs to class 4 the

coupler is singular 'i'i, dual 'iⁿ, 3+ plural 'i'i. Thus *ke'* (low falling long), strength, strong; *seⁿnke'i'i*, or *ke'i'iseⁿ* or *seⁿnke'* or *ke'seⁿ*, a strong man; *ke'i'i*, a strong one (man, e. g., understood; cf. Ger. *ein starker*). Some nouns of this class have forms for dual and plural partially or wholly different from the singular form. Thus: *k'u'tsæ'i'i*, one little stone; *k'u'tayeⁿd'i'iⁿ*, two little stones.

To the nouns of all six classes the diminutive element 'e or the augmentative element ɣo can be added as the last member of a compound. 'e in the singular has high level short "tone"; in the 2+ plural, high falling short tone. The singular and plural of ɣo are the same. The diminutive and augmentative do not in any way affect the agreement of the noun to which they are added.

The language loves to form noun plus noun compounds, thus, like German, greatly enriching its vocabulary. Nouns of class 1 are used as last members only, nouns of class 5 are used as first members only. But two nouns of the same class can be compounded together and nouns of class 1 can act as first members before nouns of class 6. The appositive pronoun agrees with the second member of every compound. Thus: *k'u'*, stone; *seⁿ*, man; *k'u'seⁿ*, stone man; *seⁿ*, man; *ke'*, strength; *seⁿnke'*, man-strength, strong man; *ts'e'*, yellowness; *ɔⁿ*, brownness; *ts'e'ɔⁿ*, yellow-brown color.

Function as subject, direct object, or referential object is not formally expressed by the noun, but is expressed by the pronoun in apposition to which the noun stands. Possessive case is expressed by postfixing -vi; thus: *ke'vi*, the bear's. A large number of noun-postfixes do the work of our English prepositions. Thus: *ke'ive*, inside the bear; *te'piye*, toward the cottonwood tree; *seⁿnwⁿa'gi*, like a man.

There are two kinds of pronouns, free and prefixed. Free pronouns can be omitted; prefixed pronouns can not be omitted.

Free pronouns denoting the speaker and the spoken to are: *naⁿ*, I or me; *naⁿi'iⁿ*, we 2+ or us 2+; *'uⁿ*, you 1; *'uⁿ*, you 2+.

Another set of free pronouns consists of those denoting the spoken of. One group of these distinguishes three degrees of remoteness: *næⁿ*, this; *hæⁿ*, you; *'o*, that (distant). Other free pronouns which belong here are: *'i*, that already referred to; *toⁿ*, who; *ha*, what. Free pronouns of this set, with the exception of

to^{aa} and ha, may add the couplers used with nouns of class 6. Thus: *na^oseⁿn*, *na^oi^oiseⁿn*, etc., this man.

The free pronoun may add the possessive -vi and the other noun post-fixes like nouns.

The prefixed pronouns precede the verb, forming with it a complete sentence. In fact, all elements except the prefixed pronoun and the verb can in any sentence be omitted and understood. Appositional nouns can be placed outside of this pronoun-verb cluster or can be tucked in between prefixed pronoun and verb. Thus: *d^oomu^a*, I-him-saw; *seⁿn d^oomu^a*, man I-him-saw; *d^oomu^a seⁿn*, I-him-saw man; *d^ooseⁿnmu^u*, I-him-man-saw. The verb with its prefixed pronoun usually stands last in the sentence for emphasis.

There are five series of prefixed pronouns. Some verbs may be used with more than one series.

1. Prefixed pronouns used with verbs denoting position, direction, or state; most of these verbs are intransitive: 'o-, I; *g^aa-*, we 2; *gⁿi-*, we 3+; 'uⁿ-, you 1; *d^aa-*, you 2; 'i-, you 3+; *na^o*, he, she, or it; *d^aa-*, they 2; *dⁱi-*, they 3+. With these pronouns the commonest verbs are such as: (a) position-verbs: *wⁿiⁿ*, to stand; *'aeⁿn* (mid level long), to sit; *k'o*, to lie; *t'o^o*, to be within; *tša*, to be situated; *muⁿ*, to be or to have; (b) motion-verbs: *mæⁿ*, to go; *'æⁿ* (mid falling long), to come; *γiⁱ*, to be moving about within certain limits; (c) state-verbs: *he*, to be sick; *d^aa^a*, to lack, want, or love. Some "impersonal" weather verbs require 'i instead of *na^o* in the third person singular. Thus: *'ikwɔⁿd^oo^o*, it is raining.

2. Referential prefixed pronouns used with verbs denoting position, direction, or state. The subject is always in the third person. They are: *dⁿiⁿn-*, he or they for me; *g^aæⁿn-*, he or they for us 2; *gⁿiⁿn-*, he or they for us 3+; *'uⁿn-*, he or they for you 1; *'d^aæⁿn-*, he or they for you 2; *'uⁿn-*, he or they for you 3+; *'uⁿn-*, he or they for him; *dⁿæⁿn-*, he or they for them 2; *dⁿiⁿn-*, he or they for them 3+. Thus: *dⁿiⁿnγiⁱ*, they 3+ are running around for them 3+; *dⁿiⁿnkwi^aæⁿn*, a woman in prime is coming with reference to me (i. e., I am going to get married).

3. Prefixed pronouns denoting subject plus object. There are eighty-one different combinations of subject and object denotation,

singular, dual, and plural number, and first, second, and third person, a special series of these pronouns being used to express imperative mode. Thus: d^oheyi, I kill it; na^hheyi, you 1 kill it; ova^hheyi, you 1 kill them 2; 'æ^hheyi, we 2 kill it.¹

4. Referential prefixed pronouns denoting subject plus direct object plus referential object. There are eighty-one combinations of case, number, and person, including special pronominal forms for the imperative mode. Thus: w^hi^hnpa^h, I-it-or-them-for-you-1-am-making.¹

5. Reciprocal-reflexive prefixed pronouns. Reciprocal and reflexive action is not formally distinguished. These are: d^he-, I-me; 'æ^h-, we-2-us-2; 'ivi-, we-3+-us-3+; b^hi-, you-1-you-1; d^hæ^h-, you-2-you-2; 'u^hvi-, you-3+-you-3+; 'i-, he-him; d^hæ^h-, they-2-them-2; d^hivi-, they-3+-them-3+. Imperative: 'o-, you-1-you-1!; b^ha-, you-2-you-2!; b^hi-, you-3+-you-3+! Thus: d^hesoge, I seat myself; d^hivimu^h, each of them 3+ looked at himself, or they 3+ looked at each other.

The prefixed pronoun forms given above are those used in apposition with nouns of classes 1, 2, and 3. Nouns of class 4 require a singular pronoun form in apposition with their (collective) 3+ plural.

The Tewa question is formed by placing ti before or ka after a sentence. Thus: ti na^hhe', is he sick?

The negative is formed by affixing wi before and pi after the pronoun-verb cluster. Thus: wina^hhe'pi, he is not sick.

Verb plus verb compounds are very frequent and exceedingly interesting. The position-, motion-, and state-verbs are especially frequent as second members. As in the instance of nouns, the second member has the pronominal agreement. Thus: d^hetšæ^hnu^h, I make myself jump (class 5), but 'otšæ^hnu^hd^ha^h, I want to jump (class 1).

Verb forms are very irregular as regards addition of adverbial elements. These are affixed or scattered through the sentence, and a certain verb usually requires and permits certain elements only. These elements include those which give expression to tense, on the basis of which we could establish 30 or more "conjugations."

¹ Twenty-two forms serve to express eighty-one combinations, one form in some instances expressing several combinations.

Position, direction, reiteration, realness, idealness, authority for statement, permission, potentiality, and many other adverbial notions are expressed by these modificatory elements, for whose nicety of meaning the student in many instances acquires appreciation and linguistic feeling only with difficulty. Thus 'i'ona^{mæ}, he (already referred to) (there) went; d^oomu^{"wa"}, I (actually) saw him.

Some verbs have with 3+ plural pronoun agreement a root entirely different from that used in the singular and dual. Thus ketōⁿ, to fall (singular and dual); γemuⁿ, to fall (3+ plural). Such verbs employ the 3+ plural form with a third person singular prefixed pronoun in agreement with a 3+ plural noun of class 4. Thus: seⁿ.nnæⁿ dⁿiγemuⁿ, the 3+ men fall; k'u' naⁿγemuⁿ (instead of naⁿketōⁿ!) the 3+ stones fall.

Sentence syntax is well developed. As in Nahuatl and Ute, English subordinate clauses are in Tewa rendered by coordinate clauses.

Tewa is rich in sentence-words or interjections. Salutations and polite expressions are very idiomatic and fixed. Ritualistic expressions in what is either an archaic or a distorted form of the language are taught to the initiates of some of the secret societies.

The vocabulary of Tewa is immense. The language is frightfully difficult for an English-speaking person to learn, and is still more difficult to record consistently by means of our present mediæval system of writing and orthography.

As an illustration of connected discourse a very carefully translated Tewa version of the Lord's Prayer, accompanied by interlinear translation, is appended.

na ⁿ .i ⁿ nb ⁿ i	tapa	γósi	'omá ^{kó} wa	
Us 2 + of	father	God (Sp. Dios)	that (distant) sky is	
'u ⁿ .æ ⁿ	d ⁿ i.	na ⁿ .i ⁿ n	'u ⁿ .b ⁿ i	k ^h ç ^h w ^h .æ ^o
you 1 sit (or are)	there as is well known,	we 2 +	you 1 of	name

wⁿiⁿdⁿ.aⁿ.

it I or we 2+ with reference to you 1 love.

na ⁿ .i ⁿ n	g ⁿ .id ⁿ .a ⁿ	'ivi ⁿ .ami	ha	'u ⁿ .æ ⁿ
We 2 +	we 3 + wish	we 3 + ourselves 3 + make do	what	you 1
'u ⁿ .d ⁿ .a ⁿ .w ^h .á.gi.				
you 1 wish as.				

na ^u 'i ⁿ	g ^u id ^a 'a ^u	'u ^u u ^u b ^u i	k ^u '	na ^u na ^u ng ^u e
We 2 +	we 3 + want	you 1 of	government	this earth on
'omá ^u kówaw ^a 'gi,	d ^u imæ ^u			
that (distant) sky in as	me or us 2 + give!			
na ^u 'i ⁿ	na ^u t ^a '	na ^u 'i ⁿ b ^u i	b ^u uwa	næ ^u t ^a 'pi.
Us 2 +	this day	us 2 + of	breadstuff	this day for.
hepi	d ^u i ⁿ 'owoye			na ^u 'i ⁿ b ^u i
And	it or them 2 + with reference to me or us 2 + you 1 forgive!			us 2 + of
t'ew ^u o'd ^u i	na ^u 'i ⁿ	t'ówa		'i'owoyew ^a 'gib ^a 'a ^u .
ugly magic	we 2 + person or people	we 3 + it or them 2 + forgive as also.		
wipimæ ^u ni ^u	wége			
Not me or us 2 + you 1 lead!	whither			
'ivit'ew ^u onu'ami'iwe		hew ^u æ ^u b ^u o'o		
we 3 + ourselves 3 + ugly, where magic make do		moreover		
'ipenise ^u nd ^u i'		'ivi		'iwepi
that (already known) Horned Dead Man from	him (already known) of			locality from
d ^u ik ^u 'æ ^u g ^u ena ^u .				
me or us 2 + you 1 help!				
hepaha'a	'u ^u u ^u b ^u i	k ^u '	hepaha'a	
And that is what it is	you 1 of	government	and that is what it is	
'u ^u u ^u b ^u i	ke'	hepaha'a	'u ^u u ^u b ^u i	má ^u kówa
you 1 of	strength	and that is what it is	you 1 of	sky in
hæ ^u nhew ^u æ ^u b ^u o'o	t'æ ^u ki.	hæ ^u he.		
time moreover	all.	That is right.		

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THE RUINS OF CHOQQUEQUIRAU

By HIRAM BINGHAM

IN February, 1909, I undertook to go on muleback from Cuzco to Huancayo, the present terminus of the Lima-Oroya Railroad. It was my purpose to follow the old Spanish trade route that was used not only by the armies of Pizarro and the Incas, but also by the armies of both patriots and royalists in the wars of independence (see fig. 52). I had as companion Mr Clarence Q. Hay, of Washington, D. C.

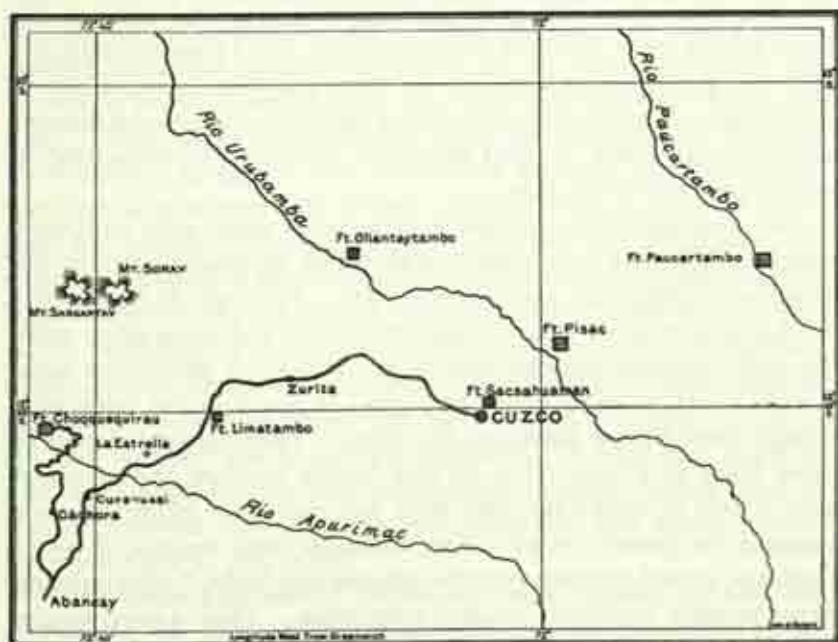


FIG. 52.—Sketch map of part of Peru showing route from Cuzco to Choquequirau.

On the fourth day out from Cuzco we reached the town of Abancay, the capital of the Department of the Apurimac, where we were welcomed by Hon. J. J. Nuñez who was then prefect of the department, a man of unusual ability and energy. Scarcely

had he taken time to show us those courtesies which are such a pleasant feature of Spanish American hospitality, than he broached the subject of Choquequirau, and begged us to visit this famous Inca stronghold which had recently been rendered readily accessible for the first time in the memory of man.

It seems that in Quichua, the language of the Incas, still spoken by a majority of the mountaineers of Peru, Choquequirau means "Cradle of Gold." Attracted by this romantic name and by the lack of all positive knowledge concerning its last defenders, several attempts had been made during the past century to explore its ruins and to discover the treasure which it is supposed the Incas hid here instead of allowing it to fall into the hands of Pizarro with the ransom of Atahualpa. Owing to the very great difficulty of reaching the site of the ruins a tradition had grown up that the Incas built a great city that once contained over 15,000 inhabitants, high up on the mountain-side, six thousand feet above the river Apurimac. That the tradition had a basis of fact had been demonstrated occasionally by bold mountain climbers who succeeded in reaching a part of the ruin.

We were told that the first man to reach there went and came alone. All he saw was a stone wall which he reached late in the afternoon, exhausted and without food. He slept in its shelter, left his gun as proof that he had been there, and came away early the next morning anxious only to get home. A generation later a small party of adventurers succeeded in reaching the ruins with enough food to last them for two days. They excavated two or three holes in a vain effort to find buried treasure and returned with a tale of sufferings that kept any one from following their example for twenty years. They brought back reports of rocky "palaces, paved squares, temples, prisons and baths," all crumbling away beneath luxuriant tropical vegetation. Then a local magistrate, dreaming of untold riches, so ran the tale, endeavored to construct a path by which it might be possible to reach Choquequirau and to maintain a transportation service of Indian carriers who could provide workmen with food while they were engaged in making a systematic effort to unearth the "cradle of gold." This man had at his disposal the services of a company of soldiers and a large

number of Indians, and it is said that he expended a large amount of time and money in his quest. He succeeded in reaching the top of the ridge, 12,000 feet above the river and 6,000 feet above Choquequirau, but was unable to scale the precipices that surround the ruins and all his labor came to nought. Others tried to utilize the path that he had made but without success until the present prefect of the department of Apurimac, Honorable J. J. Nuñez, assumed office and became interested in the local traditions. Under his patronage, a company of treasure seekers was formed and several thousand dollars were subscribed.

The first difficulty that they encountered was the construction of a bridge over the frightful rapids of the Apurimac. All efforts failed. Not a Peruvian could be found willing to venture his life in the whirlpool rapids. Finally "Don Mariano," an aged Chinese peddler, who had braved the terrors of the Peruvian mountains for thirty years, dared to swim the river with a string tied to his waist. Then, after much patient effort, he succeeded in securing six strands of telegraph wire from which he hung short lengths of fiber rope and wove a mat of reeds two feet wide to serve as a foot path for a frail suspension bridge. Once on the other side, the company was able to use a part of the trail made twenty years before, but even with that aid it took three months of hard work to surmount the difficulties that lay between the river and Choquequirau. Cheered on by the enthusiastic prefect and his aide, Lieut. Carceres, an exceptionally bold officer, the task which had defied all comers for four hundred years, was accomplished. A trail that could be used by Indian bearers was constructed through twelve miles of mountain forest, over torrents and precipices, and across ravines from the river to the ruins.

With these and similar stories we were regaled by one and another of the local antiquarians, including the president of the treasure company and our friend the prefect.

We felt at first as though we could not possibly spare the week which would be necessary for a visit that would be worth while. Furthermore we were not on the lookout for new Inca ruins and had never heard of Choquequirau. But the enthusiasm of the prefect and his friends was too much for us. The prefect held it

out as an extra inducement that no foreigners had ever visited Choquequirau, a statement that I later found to be incorrect. Finally he said that President Leguia of Peru knowing that we were to pass this way had requested the company to suspend operations until we had had a chance to see the ruins in their original condition. In short so urgent were the prefect's arguments and so ready was he to make it easy for us that we finally consented to go and see what his energy had uncovered.

That night he gave us an elaborate banquet to which he had invited fifteen of the local notables. After dinner we were shown the objects of interest that had been found at Choquequirau, including several ancient shawl pins and a few nondescript metallic articles. The most interesting was a heavy club fifteen inches long and rather more than two inches in diameter, square, with round corners, much like the wooden clubs with which the Hawaiians beat *tapa*. It has a yellowish tinge that gave rise to a story that it is of pure gold. Unfortunately we had no means of analyzing it but I presume it was made, like the ancient Inca axes, of copper hardened with tin.

The next afternoon we packed and on the following morning, accompanied by a large cavalcade, we started for Choquequirau. Most of our escort contented themselves with a mile or so, and then, wishing us good luck, returned to Abancay. We did not blame them. Owing to unusually heavy rains, the trail was in a frightful state. Well nigh impassable bogs, swollen torrents, avalanches of boulders and trees besides the usual concomitants of a Peruvian bridle-path cheered us on our way.

At noon we stopped a few moments in the village of Cachora where the prefect had instructed the gobernador to prepare us a "suitable luncheon." This intoxicated worthy offered us instead, many apologies, and we had to get along as best we could with three or four boiled eggs, all the village could provide.

All day long through rain and heavy mists that broke away occasionally to give us glimpses of wonderfully deep green valleys, and hillsides covered with rare flowers, we rode along a slippery path that grew every hour more treacherous and difficult. In order to reach the little camp on the bank of the Apurimac that

night we hurried forward as fast as possible although frequently tempted to linger by the sight of acres of magnificent pink begonias and square miles of blue lupins. By five o'clock, we began to hear the roar of the great river seven thousand feet below us in the cañon. The Apurimac, which flows through the Ucayali to the Amazon, rises in a little lake near Arequipa, so far from the mouth of the Amazon that it may be said to be the parent stream of that mighty river. By the time it reaches this region it is a raging torrent two hundred and fifty feet wide and, at this time of the year, over eighty feet deep. Its roaring voice can be heard so many miles away that it is called by the Quichua, the Apurimac, or the "Great Speaker."

Our guide, the enthusiastic Carceres, declared that we had now gone far enough. As it was beginning to rain and the road from there on was "worse than anything we had as yet experienced," he said it would be better to camp for the night in an abandoned hut nearby. His opinion was eagerly welcomed by two of the party, young men from Abancay, who were having their first real adventure, but the two "Yankis" decided that it was best to reach the river if possible. Carceres finally consented, and, aided by the dare-devil Castillo, we commenced a descent that for tortuous turns and narrow escapes beat anything we had yet seen.

An hour after dark we came out on a terrace. The roar of the river was so great that we could scarcely hear Carceres shouting out that our troubles were now over and "all the rest was level ground." This turned out to be only his little joke. We were still a thousand feet above the river and a path cut in the face of a sheer precipice had yet to be negotiated. In broad daylight we should never have dared to ride down the tortuous trail that led from the terrace to the bank of the river, but as it was quite dark and we were entirely innocent of any danger we readily followed the cheery voice of our guide. The path is what is known as a corkscrew and descended the wall of the cañon by means of short turns, each twenty feet long. At one end of each turn was a sheer precipice while at the other was a chasm down which plunged a small cataract which had a clear fall of seven hundred feet. Half way down the path my mule stopped, trembling, and I dismounted

to find that in the darkness he had walked off the trail and had slid down the cliff to a ledge. How to get him back was a problem. It is not easy to back an animal up a steep hill, and there was no room in which to turn him around. It was such a narrow escape that, when I got safely back upon the trail, I decided to walk the rest of the way and let the mule go first, preferring to have him fall over the precipice alone if that were necessary.

Two-thirds of the way down the descent came the crux of the whole matter for here the path crossed the narrow chasm close to and directly in front of the cataract; and in the midst of its spray. There was no bridge. To be sure, the waterfall was only three feet wide, but it was pitch dark. As I could not see the other side of the chasm, I did not dare to jump alone but remounted my mule, held my breath, and gave him both spurs at once. His jump was successful. Ten minutes later we saw the welcome light of the master of the camp who came out to guide us through a thicket of mimosa trees that grew on the lower terrace just above the river.

The camp consisted of two huts, 6 x 7, built of reeds. Here we passed a most uncomfortable night.

While breakfast was being prepared we went out to take picutres and measurements of the bridge. This was 273 feet long by 32 inches wide, and the river 250 feet wide. "Don Mariano," the builder of the bridge, told us that when construction commenced, the water was nearly eighty feet below the bridge although at present the river had risen so that it was only twenty-five feet below it, an increase in depth of *over fifty feet*. An almost incredible bulk of water was roaring between its steep banks. It was estimated at 100 feet deep, and yet the water piled up on itself in such a way as to give the appearance of running against huge boulders in mid-stream.

We sent the Indian bearers ahead with our luggage. Pack animals could not possibly use the trail on the other side of the river and the bridge was not constructed to carry their weight. The surprising thing was that the Indians were very much afraid of the frail little bridge which Chinese courage and ingenuity had built, and crept gingerly across it on their hands and knees while they carried our luggage and supplies to the other side of the river.

They had been accustomed for centuries to using frail suspension bridges much less strong in reality than this little structure. But they are not acquainted with the tenacity of wire and it seemed the height of frivolity to them that we should be willing to trust our lives to such a small "rope." Yet the much larger fiber ropes of which their suspension bridges were constructed would not begin to stand the strain as well as these six telegraph wires.

After a breakfast, of thin soup and boiled sweet potatoes, we girded ourselves for the ascent. The river at this point is about five thousand feet above sea level. We had had little practice in mountain climbing, except on mule back, for many months, and it seemed like a pretty serious undertaking to attempt to climb six thousand feet more to an elevation of eleven thousand feet. This will sound tame enough to the experienced mountain climber although it was anything but easy for us. Our patient, long-suffering Quichua bearers, coming of a race that, at high altitudes, is in the habit of marching distances which appear incredibly long to those students of military history that have confined their attention to the movements of European troops, bore their burdens most cheerfully. At the same time they gave frequent evidence of great fatigue which was not at all to be wondered at under the circumstances.

At times the trail was so steep that it was easier to go on all fours than to attempt to maintain an erect attitude. Occasionally we crossed streams in front of waterfalls on slippery logs or treacherous little foot bridges. At other times we clung to the face of rocky precipices or ascended by roughly constructed ladders from one elevation to another. Although the hillside was too precipitous to allow much forest growth, no small part of the labor of making the path had been the work of cutting through dense underbrush.

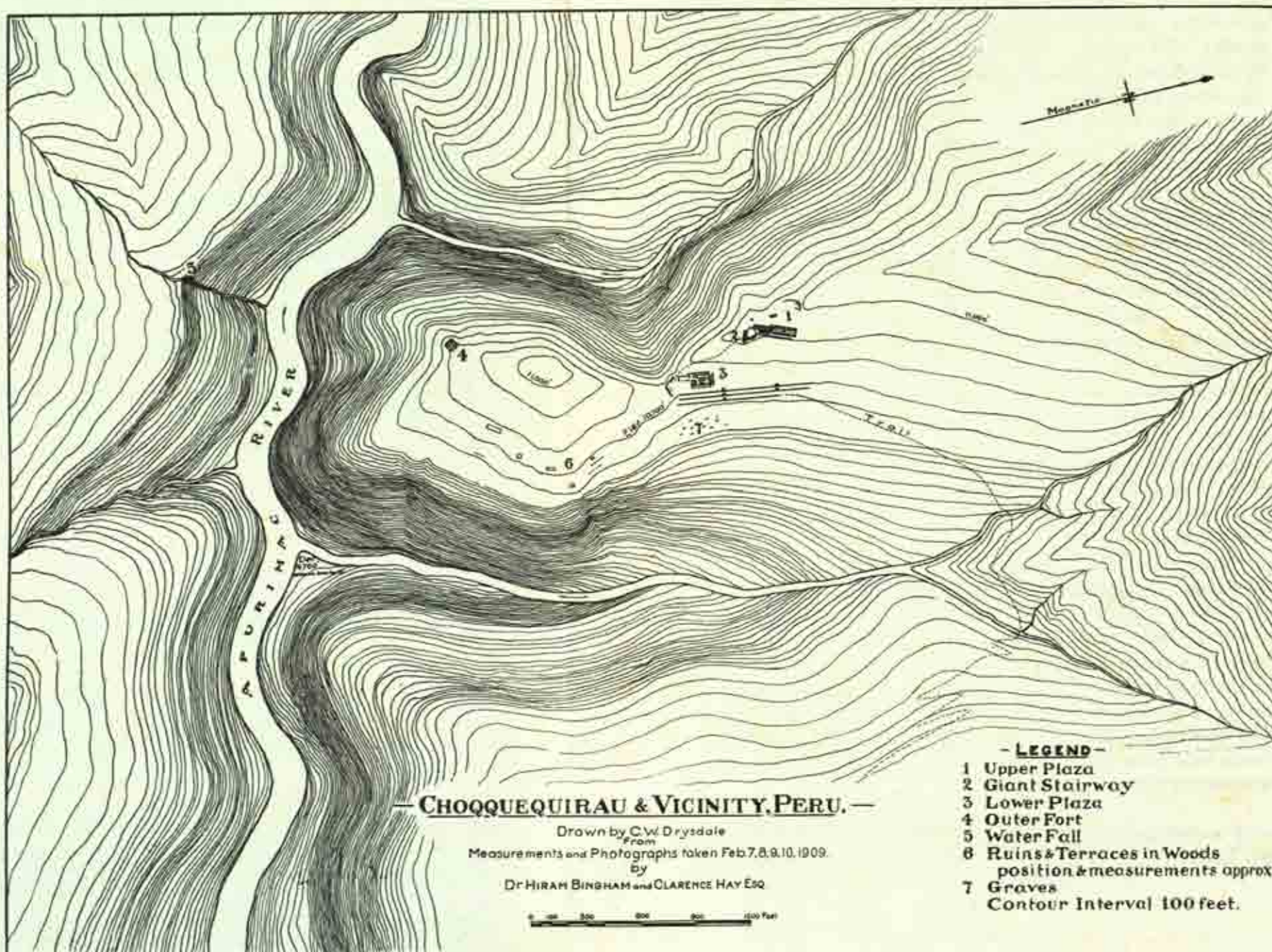
As we mounted, the view of the valley became more and more magnificent. Nowhere have I ever witnessed such beauty and grandeur as was here displayed. A white torrent raged through the cañon six thousand feet below us. Where its sides were not too precipitous to admit of vegetation, the steep slopes were covered with green foliage and luxuriant flowers. From the hilltops near

us other slopes rose six thousand feet beyond and above to the glaciers and snow capped summits of Mts Sargentay and Soray. In the distance, as far as we could see, a maze of hills, valleys, tropical jungles, and snow-capped peaks held the imagination as though by a spell. Such were our rewards as we lay panting by the side of the little path when we had reached its highest point.

After getting our wind, we followed the trail westward, skirting more precipices and crossing other torrents until, about two o'clock, we rounded a promontory and caught our first glimpse of the ruins of Choquequirau on the slopes of a bold mountain headland six thousand feet above the river. Between the outer hilltop and the ridge connecting it with the snow-capped mountains a depression or saddle had been terraced and leveled so as to leave a space for the more important buildings of the Inca stronghold.

At three o'clock we reached a glorious waterfall whose icy waters, coming probably from the glaciers on Soray, cooled our heads and quenched our thirst. We had now left our companions far behind and were pushing slowly along through the jungle when shortly before four o'clock we saw terraces in the near distance. Just as we began to enjoy the prospect of reaching Choquequirau alone, Carceres and Castillo caught up with us. They had stayed behind in a futile attempt to encourage the Indian bearers and the other adventurers to have more "valor." The others did not arrive until the next morning, not even the Quichua carriers on whom we depended for food and blankets, and owing to their non-appearance we passed an uncomfortable night in the smallest of the little thatched huts which the workmen had erected for their own use. It was scarcely three feet high and about 6 ft. long by 4 ft. wide. The day had been warm and, in our efforts to make climbing as easy as possible, we had divested ourselves of all our warm clothes. Notwithstanding the fact that a shelter tent was pulled down and wrapped around us for warmth, and stacks of dry grass piled about us, we were scarcely able to close our eyes for the cold and chilling dampness all night long.

The humidity was one hundred or nearly so during the four days which we spent on the mountain. Consequently we passed the greater part of the time in thick mist or rain.



We had reached Choquequirau (plate XL), after a hard climb, on February 7, 1909. The next morning we began at once to take measurements and get what pictures we could. We found that the ruins were clustered in several groups, both on terraces and natural shelves, reached by winding paths or stairways. Some buildings were long and narrow and of one story; others of a story-and-a-half with tall gables. The buildings were placed close together, probably in order to economize all the available space. It is likely that every square yard that could be given to agriculture was cultivated.

Magnificent precipices guard the ruins on every side and render Choquequirau virtually inaccessible to an enemy. Every avenue of ascent, except such as the engineers determined to leave open, was closed and every strategic spot was elaborately fortified. Wherever it might have been possible for a bold mountaineer to gain a foothold, the Incas had built well faced walls of stone so as to leave an adventurous assailant no support. The terraces thus made served the double purpose of military defense and of keeping the soil from sliding away from the gardens down the steep hillside.

As may be seen from the map, the ruins consist of three distinct groups of buildings.

All had been more or less completely hidden by trees and vines during the centuries of solitude. Fortunately for us the treasure-seeking company had done excellent work in clearing away from the more important buildings the tangled mass of vegetation that had formerly covered them. Dynamite had also been used in various likely spots where treasure might have been buried. But the workmen had found no gold and only a few objects of interest, including, besides those we saw at Abancay, a few clay pots and two or three grinding stones of a pattern still in use in this part of the Andes and as far north as Panama (plate XLI, *a*).

At the top of the southern and outer precipice, five thousand eight hundred feet immediately above the Apurimac river, stands a parapet and the walls of two buildings without windows. The view from here, both up and down the valley of the Apurimac, surpasses the possibilities of language for adequate description. No photograph gives more than the faintest idea of its beauty and gran-

deur. Far down the gigantic cañon one catches little glimpses of the Apurimac, a white stream shut in between guardian mountains, so narrowed by the distance that it seems like a mere brooklet. Here and there through the valley are marvelous cataracts, one of which, two thousand feet high, has a clear fall of over one thousand feet. The panorama in every direction is wonderful in variety, contrast, beauty, and grandeur.

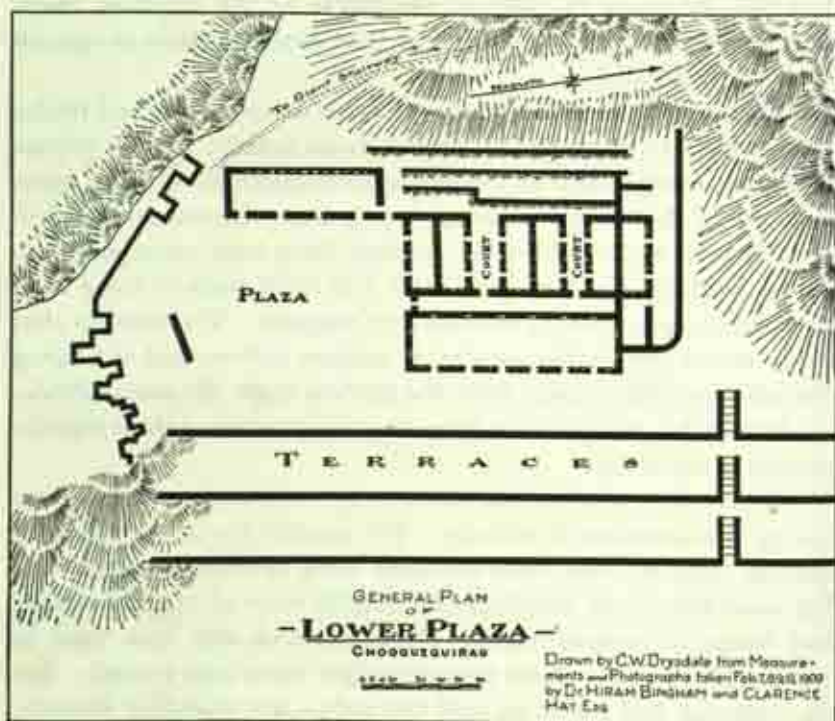


FIG. 53.

North of this outer group of buildings is an artificially truncated hill. It is probable that on this flattened hilltop, which commands a magnificent view up and down the valley, signal fires could be built to telegraph to the heights overlooking Cuzco intelligence of the approach of an enemy from the Amazonian wilds.

We noticed on this hilltop that small stones had been set into the ground, in straight lines crossing and recrossing at right angles as though to make a pattern. So much of it was covered by grass,



α



β

RUINS OF CHOQUEQUIRAU

α. Pottery and stoneware; β. Wall into which were set curious carved stone rings.

however, that we did not have a chance to sketch it in the time at our disposal.

North of the lookout and on the saddle between it and the main ridge is located the "lower plaza" (fig. 53): a rude fortification fifteen feet high, running across the little ridge from one precipitous slope to the other; a long one-story building of uncertain use in which curious carved stone rings are set into the walls in such a manner as to serve possibly for the detention of prisoners (plate XLI, b); a long one-story building that might have been a grand hall or place of meeting, whose walls are surrounded with numerous niches; and a block of story-and-a-half houses whose gabled ends are still standing. The use of gables was almost universal in the central and southern parts of the Inca empire. Ruins of Inca towns are in fact specially marked by their pointed gables which almost always have one or two windows, or entrances to the second story.

These double buildings stand transversely to the general line of the edifices and have a middle or party-wall exactly dividing the gable. It rises to the peak of the structure and once doubtless supported the upper ends of the rafters. These houses bear a striking resemblance to one of the Inca buildings at Ollantaytambo described by Squier¹ in the following words:

"It is a story and a half high, built of rough stones laid in clay, and originally stuccoed, with a central wall reaching to the apex of the gables, dividing it into two apartments of equal size. . . . There seems to have been no access to the upper story from the interior, but there are two entrances to it through one of the gables, where four flat projecting stones seem to have supported a kind of balcony or platform, reached probably by ladders."

This description fits these structures almost exactly. There are other resemblances between Choquequirau and the Inca fortresses visited and described by Mr Squier. In fact, one might use many a sentence from his accounts of Pisac and Ollantaytambo that would adequately describe Choquequirau and its surroundings. Like the buildings of Ollantaytambo, these are nearly perfect, lacking only the roof.

One two-story building had an exterior measurement of 42 x 38

¹ E. G. Squier, *Peru, Incidents of Travel and Exploration in the Land of the Incas*, New York, 1877, p. 503.

feet. Similar buildings measured by Squier near the temple of Viracocha north of lake Titicaca were similarly divided into two equal apartments and measured 46 x 38 feet. The fronts of each building have two entrances (plate XLII, *a*) and the interior of every apartment is ornamented with irregular niches within which some of the stucco still remains. The walls are irregular in thickness but usually about three feet thick, and are composed of unhewn fragments of lava cemented together with a stiff clay.

In general, the walls of all the buildings appear to have been built entirely of stone and clay. The construction, compared with that of the Inca palaces in Cuzco, is extremely rude and rough and no two niches or doors are exactly alike. Occasionally the lintels of the doors were made of timber, the builders not having taken the trouble to provide stones wide enough for the purpose. One such lintel was still standing, the wood being of a remarkably hard texture.

Probably the ruins today present a more striking appearance than they did when they were covered with thatched roofs.

Ornamental niches, which constitute a characteristic and constant feature in Inca architecture, appear on the interior of all the Choquequirau buildings and on the exterior of a few. Some of those on the outside have small re-entering niches. Those on the inside are of two kinds. The larger ones, about five feet high, reach to the floors of the apartments and are mere closets as it were without doors, being slightly wider at the bottom, about thirty-four inches, than at the top, about twenty-eight inches, and of varying depth, thirteen to sixteen inches. A second line of niches, smaller and not reaching to the ground, is also found in several of the buildings. There is good evidence that some of the buildings were faced with stucco and possibly painted in colors differing from the walls they were intended to adorn. In the case of one wall that had been partly pushed out of the perpendicular by the action of time several of the niches retained almost entirely their coating of stucco and so did some of the more protected portions of the wall (plate XLIII, *a*).

Almost the only ornamentation which the buildings contained besides the ever present niches, were cylindrical blocks of stone



4



5

RUINS OF CHOQUEQUIRAU

a, Principal entrance to long corridor, lower plaza, the most elaborate gateway in the ruins; b, A reservoir or bath house.



48



RUINS OF CHOQUEQUIRAU

a. Niche still retaining their stucco; b. Gabled houses in the upper plaza.

about three inches in diameter projecting twelve or fourteen inches from the wall seven feet above the ground between each niche. These may be seen in plate XLIII, *a*.

In one of the niches I found a small stone whirl-bob of a spindle wheel, in size and shape like those made from wood and used to-day all over the Andes by Indian women. This simple spinning apparatus consists of a stick about as large as the little finger and from ten to twelve inches long. Its lower end is fitted with a whirl-bob of wood to give it proper momentum when it is set in motion by a twirl of the forefinger and thumb grasping the upper end of the spindle. It is in universal use by Indian women from the Andes of Colombia to those of Chile and one rarely sees a women tending sheep or walking along the high road who is not busily engaged in using this old fashioned spindle. In the tombs of Pachacamac near Lima have been found spindles still fitted with similar whirl-bobs of stone.

The third group of buildings (fig. 54) is higher up on the spur, a hundred feet or more above the second group. Near the path from the lower to the upper plaza are the remains of a little *azequia* or watercourse, now dry, lined with flat stones, designed to carry a small stream from the upper buildings to the lower. The southeast corner of the upper group of buildings is marked by a huge projecting rock twenty feet high and twelve or fifteen feet in diameter. Beside it, facing the eastern slope, is a giant stairway. It consists of fourteen great steps roughly made and of varying dimensions (plate XLIV, *a*). They average about fifteen feet wide, with risers four and a half feet high and treads about six and a half feet deep. It is possible to ascend these stairs by means of small stone steps erected on one end or the other of the giant step. Walls on each side, two feet wide, serve as a balustrade. A peculiarity of the construction is the locating of a huge flat stone in the center of the riser of each step. The view to the eastward from this stairway is particularly fine. Perhaps the rising sun, chief divinity of the Incas, was worshipped here.

Beyond the stairway are terraces, alleyways, walls, and story-and-a-half buildings, filled with niches and windows. The length of the first terrace is slightly over two hundred feet and its height

is twelve feet. The second terrace above it has a height of ten feet and a length of one hundred and twenty-nine feet. Above these are two long alleyways or halls with niches in their walls and windows looking out over the terraces. These halls are five feet wide. Back of these are buildings resembling in their construction

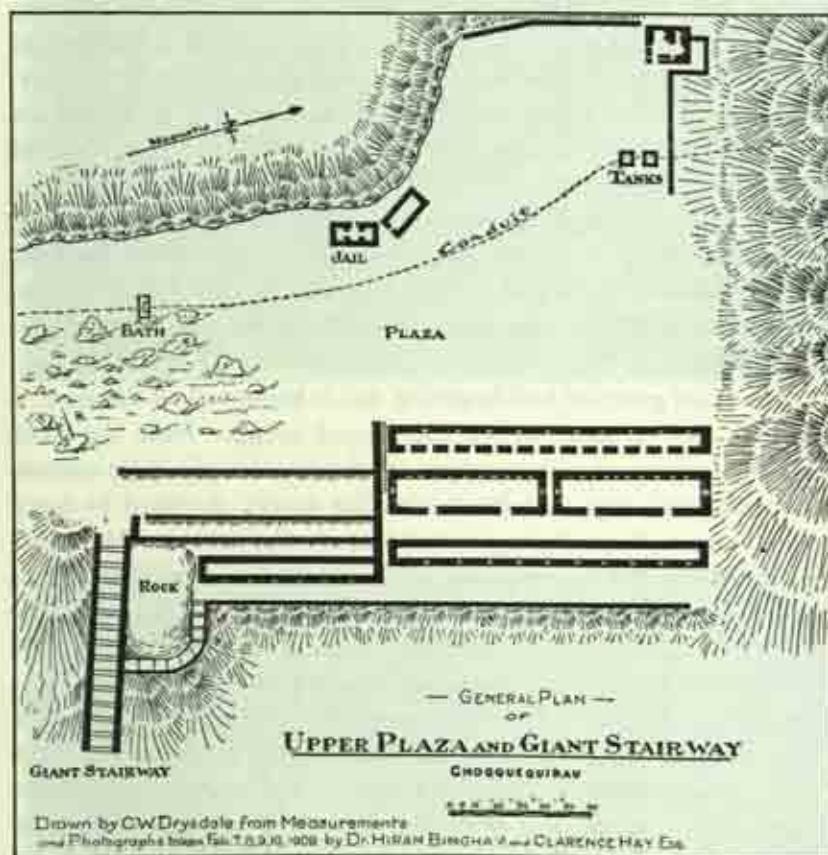


FIG. 54.

those in the lower group of houses (plate XLIII, *b*). They also are decorated with irregular niches and cylindrical stone projections. Under these houses, however, there ran a small passageway or drain twelve inches wide and ten inches deep. These two houses although roughly built were as nearly exactly the same size as possible. Between them ran a narrow passageway leading to a



a



b

RUINS OF CHOQUEQUIRAU

a. Upper six steps of the giant stairway ; b. Grave where the author found a small stone jar.

back alley. This was curiously paved, with slabs of slate half an inch thick. Back of this is another hall five and a half feet wide with windows in front and niches on the rear, or hill, side.

The gables of the upper group are steeper than those of the lower group and are in fact quite as pointed as those seen in Dutch cities. The two gable buildings of the upper group stand on the slope of the hill in such a manner that there is no gable on the side nearest the declivity. In other words, they are only half the shape of the double houses below. Nearly all of these houses have two or three small rude windows. A narrow stone stairway leads from the back alley to a terrace above. This opens out into the upper plaza on which are several buildings that overlook the western precipices. Two of the buildings have no windows and one of them contains three cells. The Peruvians said they were used for the detention of prisoners. They were more likely storehouses. On the north side of the plaza is a curious little structure built with the utmost care and containing many niches and nooks. It may possibly have been for the detention of so called "virgins of the Sun" or have been the building in which criminals, destined to be thrown over the precipice according to the laws of the Incas, awaited their doom. The plan gives a good idea of its irregular construction.

Above it the hillside rises steeply and on the crest of the ridge runs a little conduit which we followed until it entered the impenetrable tropical jungle at the foot of a steep hill. The water in this little *azequia*, now dry, coming straight down the spur, was conducted over a terrace into two well-paved tanks on the north side of the plaza. Thence it ran across the plaza to a little reservoir or bath-house on the south side (plate XLII, *b*). This was ten feet long by five feet wide with low walls not over five feet high and had on its north side a small stone basin let down into the floor two feet by three, in such a manner as to catch the water that flowed over the edge of the wall. A small outlet had been provided at the end of this basin so that the water could flow underneath the floor of the bath room or tank house and then proceed on its way down the ridge to the buildings below.

As the western slope of the Choquequirau spur is a sheer preci-

pice, little attempt at fortification was made on that side. The eastern slope, however, is not so steep. On this side it was necessary to build enormous terraces hundreds of feet long faced with perpendicular stone walls twelve feet wide. Two narrow alleys paved with stone steps lead from one terrace to another.

Near one of the terraces I picked up a bola, or possibly a hammer-stone, nearly as large as my fist. It may have been used in dressing the stones for the entrance to the more important buildings.

In the jungle immediately below the last terrace, under ledges and huge boulders, were dug little caves in which the bones of the dead were placed (plate XLIV, *b*). I found that the bones were heaped in a little pile as though they had been cleaned before being interred. No earth had been placed on them but on top of the little pile in one grave I found a small earthenware jar about one inch in diameter. It had no handles and was not closed at the top although the opening, a quarter of an inch in diameter, had been fitted with an especially well made perforated cap. There was nothing in the jar although it had retained its upright position during all the years of its interment. The natural entrance to the little tomb had been walled up with wedge-shaped stones from the inside in such a way as to make it extremely difficult to enter the cave from the front. I found, however, that by digging away a little on one side of the huge boulder, I could easily remove the stones, which had evidently been placed there by the grave digger after the bones had been deposited in the tomb.

The workmen had excavated under a dozen or more of the projecting ledges and in each case had found bones and occasionally shreds of pottery. In no case, however, had they found anything of value with the bones to indicate that the persons buried here were of high degree. Probably they were common soldiers and servants. If any of the officers of the garrison or Inca nobles were ever buried in this vicinity, their tombs have not yet been discovered, or else the graves were rifled years ago. But of this there is no evidence.

All the conspicuously large rocks below the terraces have been found to cover graves. The skulls were not found alone but always near the remainder of the skeleton. The larger bones were in fairly good condition but the smallest bones had completely disin-

tegrated. Nevertheless ribs were frequently met with. Some of the largest bones could be crumbled with the fingers and easily broken while others were very hard and seemed to be extremely well preserved. Some skulls likewise were decayed and could be easily crushed with the fingers while others were white and hard. All the skulls found were those of adults although one or two of them seemed to be persons not over twenty years of age (see



FIG. 55.—Quichua skulls.

fig. 55). So far as has been observed no superencumbent soil was placed on the skeleton.

The Quichua Indian carriers and workmen watched our operations with interest but they became positively frightened when we began the careful measurement and examination of the skulls. They had been in doubt as to the object of our expedition up to that point, but all doubts then vanished and they decided we had come here to commune with the spirits of the departed Incas.

As a rule the evidence of deformation of the skull was slight in a majority of the specimens examined. Nevertheless one had been much flattened behind and another extremely so in front. There was no evidence of the skulls having been trephined or of any decorative patterns having been made on any part of the skulls or bones. Three of the skulls are now in the Peabody Museum in New Haven, with the other articles I found here.

On the steep hillside southeast of the terraces and graves, we found many less important ruins completely covered by the forest. Were it possible to clear away all the rich tropical growth that has been allowed to accumulate for centuries, one would undoubtedly find that there is not a point which is not somehow commanded

or protected by a maze of outworks. No clearing or path having been constructed in order to enable them to be seen, we could not form an adequate idea of their extent. There seemed to be, however, no limit to the ruins of the huts where lived the private soldiers and the servants of the garrison. One hall measured 75 x 25 feet while another was 30 x 10 and it is entirely possible that there are others that have not yet been located, so dense is the jungle.

On the opposite side of the valley are the ruins of Incahuasy, near Tambobamba, which are described by Mr Charles Wiener.¹ So far as I can judge from the drawings he gives of one of the "palaces" the construction is very similar to that used at Choquequirau.

I believe that Incahuasy and Choquequirau were originally frontier fortresses that defended the valley of the Apurimac, one of the natural approaches to Cuzco from the Amazonian wilds. A glance at the map will show that Pisac and Paucartambo, northeast of Cuzco, with Ollantaytambo to the north and Choquequirau to the west form a complete line of defense. Each is located in one of the valleys by which the unconquered Indians of the great forest could attack the sacred capital of the Incas. The Incas were never able to extend their empire far into the forests that covered the eastern slopes of the Andes or the valleys of the rivers that flow toward the Amazon. They did, however, push their empire down the valleys until they encountered the savage inhabitants of these wild forests, savage Chunchas or Antis, who with their poisoned arrows and their woodcraft were well able to protect themselves. The Incas were obliged to stop short when they reached the thick forests. The massive and complicated fortresses of Paucartambo, Pisac and Ollantaytambo marked the extent of their sway. There were undoubtedly several less important outlying fortresses lower down the rivers, situated in such a way as to be able to prevent the incursions of small parties of wild savages and give notice of any large expeditions that might attempt to march on Cuzco. They were so placed as to be practically impregnable. Choquequirau was evidently one of these.

I fear that no amount of dynamite will ever disclose at Choquequirau a "cradle of gold" or any articles of great value. It

¹ *Pérou et Bolivie*, pp. 293-5.

was not a temple or a treasure house, but a fortress where life was strenuous. The officers of its garrison were not likely to bring with them gold ornaments or utensils, and the poor Incas had few such baubles left at the end of their career.

Why then should it have been called the "Cradle of Gold"? One answer is that the ridge or spur on which Choquequirau lies, when seen from a distance, looks not unlike a hammock. The setting sun often tinges it with gold and the romantic Incas might easily have named Choquequirau from its resemblance to the only cradles with which they were familiar.

The other answer is that the name, which does not occur in any of the chronicles so far as I have been able to discover, is a modern invention. In one of the buildings we found several slabs of slate on which visitors have been accustomed to register their names. According to these inscriptions Choquequirau was visited in 1834 by a French explorer, M. Eugene de Sartiges, and in July, 1834, by two Peruvians, José Maria de Tejada and Marcelino Leon, who may have come with De Sartiges.

Charles Wiener, in his very unreliable but highly interesting *Perou et Bolivie* (Paris, 1880) says (footnote, p. 294) that Choquequirau has also been visited by another Frenchman, "M. Angrand whose MS. notes, with plans and drawings, were bequeathed to the Bibliothèque Nationale in Paris." I am indebted to Mr W. G. Leland of the Carnegie Institution for a copy of them. It appears that Angrand was in Peru in 1847-8. His map of Choquequirau, a very rough sketch, is dated 30 Sept. He does not seem to have seen much besides the lower plaza. Angrand's name does not appear on any of the slates.

Besides De Sartiges, and the two Peruvians already mentioned, the slate records show that in 1861, on the 10th of November, José Benigno Samanez ("pro Presidente Castilla"), Juan Manuel Rivas Plata, and Mariano Cisneros reached the ruins; also that on July 4, 1885, Luis E. Almanza, J. Antonio Almanza, Emiliano Almanza, Pio Mogrovejo, and a party of workmen did what they could to find the buried treasure. So much for the existing evidence of former visitors.

M. de Sartiges, writing under the *nom de plume*, E. de Lavandais,

published an account of his visit in the *Revue des Deux Mondes*, in June, 1851. His route, the only one possible at the time, was exceedingly circuitous. From Mollepata, a village near the sugar plantation of La Estrella, he went north across the high pass between Mts. Sargentay and Soray to the river Urubamba, to a village called Yuatquinia (Huadquina?). He engaged Indians to cut a trail to Choquequirau. After three weeks he found that the difficulties of making a trail were so great that it would take at least two months to finish the undertaking so he and his companions made their way through the jungle and along the precipices as best they could for four days. On the fifth day they arrived at the ruins. In his projects for exploration, he had failed to take into account the fact that tropical vegetation had been at work for centuries covering up the remains of the Inca civilization, and, as he was able to stay at Choquequirau only for two or three days, he failed to see some of the most interesting ruins. The giant stairway and the buildings on the upper plaza seem to have escaped his attention entirely. He was greatly impressed with the fortifications on the south side of the lower plaza and speaks of them as though they formed a triumphal wall (*mur triomphal*). He seems to have spent most of his time hunting for treasure behind this wall. He had expected to spend eight days here but the difficulties of reaching the place were so great and the food supply was so limited that he had to hurry back without seeing more than the buildings of the lower plaza, the lower terraces, and a grave or two. It was his opinion that fifteen thousand people lived here once. One wonders what they lived on.

M. de Sartiges' description made us realize how much we were indebted to the labors of the treasure-seeking company for penetrating the jungle and uncovering buildings whose presence otherwise would never have been suspected.

Raimondi says that in 1862, Don Juan Gastelu, a Peruvian traveller, left Ayacucho in an effort to go up the valley of the Apurimac in a canoe, hoping in this way to reach the ancient fortress. After seven days of perilous navigation, he gave up the attempt long before reaching its vicinity.

The interesting question remains: Was this the ultimate refuge of the last Inca?

It is reasonably certain that Manco Ccapac, the last emperor, fleeing from the wrath of the conquerors, took refuge in a place called "Vilcabamba." There is a village of that name two or three days journey over the mountains north of Choquequirau, on the Vilcabamba River, an affluent of the Urubamba. It has never been explored so far as I know.

Peruvian writers, like Paz Soldan and the great geographer Raimondi, are positive that Manco Ccapac's "Vilcabamba" was really Choquequirau. They base their belief on the fact that in 1566 an Augustinian friar, Marcos Garcia, undertook to penetrate to "Vilcabamba" where poor old Manco Ccapac had found a refuge. In describing his tour, Father Calancha, the author of the *Chronica moralizada del Orden de San Augustin* (Libro III, cap. XXIV and XLII), says that Garcia founded a church in Pucyura, "two long days' journey from Vilcabamba." Raimondi calls attention to the fact that the Pucyura is only two leagues from the present village of "Vilcabamba" and, while he admits that it is possible that Father Calancha wrote "days journey" instead of "leagues" by mistake, he believes that the reference is to Choquequirau which is in fact two long days' journey from Pucyura. It is at least a very roundabout method of inference.¹

Raimondi may be correct but, until some one shall have explored the present village of Vilcabamba and its vicinity, I am inclined to the opinion that Choquequirau was merely a fortress.

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¹ Raimondi, *Peru*, Vol. II, page 161.

MYTHS OF THE LOUISIANA CHOCTAW

By DAVID I. BUSHNELL, JR

A FEW miles north of Lake Pontchartrain, in St Tammany parish, Louisiana, are living at the present time some ten or twelve Choctaw, the last of the once numerous branch of the tribe that formerly occupied that section. They are living not far from Bayou Lacombe, near one of their early settlements known in their language as Butchu'wa or "Squeezing," probably from the narrowing of the bayou at that point.

The oldest member of this small band is a woman, Pisatuntema. She is about fifty years of age, the daughter of one of the principal men of the last generation, who, at the time of his death some years ago, was recognized as a chief. From her father Pisatuntema learned many of the ancient tribal myths and legends, and on the following pages they are given as they were related by her to the writer. Often, however, while telling the legends, she would be interrupted by others who would suggest or add certain details; but all were familiar with the subjects and at no time did they differ on any essential points. The myths and legends here recorded were collected by the writer during January and February, 1910.

I. NANÉ CHAHA

Nané chaha (*nané*, 'hill'; *chaha*, 'high') is the sacred spot in the mountainous country to the northward, always regarded with awe and reverence by the Choctaw.

In very ancient times, before man lived on the earth, the hill was formed, and from the topmost point a passage led down deep into the bosom of the earth. Later, when birds and animals lived, and the surface of the earth was covered with trees and plants of many sorts, and lakes and rivers had been formed, the Choctaw came forth through the passageway in Nané chaha. And from that point they scattered in all directions but ever afterwards remembered the hill from the summit of which they first beheld the light of the sun.

II

Soon after the earth (yahne) was made, men and grasshoppers came to the surface through a long passageway that led from a large cavern, in the interior of the earth, to the summit of a high hill, Nané chaha. There, deep down in the earth, in the great cavern, man and the grasshoppers had been created by Aba, the Great Spirit, having been formed of the yellow clay.

For a time the men and the grasshoppers continued to reach the surface together, and as they emerged from the long passageway they would scatter in all directions, some going north, others south, east, or west.

But at last the mother of the grasshoppers who had remained in the cavern was killed by the men and as a consequence there were no more grasshoppers to reach the surface, and ever after those that lived on the earth were known to the Choctaw as *eske ilay*, or "mother dead." However, men continued to reach the surface of the earth through the long passageway that led to the summit of Nané chaha, and, as they moved about from place to place, they trampled upon many grasshoppers in the high grass, killing many and hurting others.

The grasshoppers became alarmed as they feared that all would be killed if men became more numerous and continued to come from the cavern in the earth. They spoke to Aba, who heard them and soon after caused the passageway to be closed and no more men were allowed to reach the surface. But as there were many men remaining in the cavern he changed them to ants and ever since that time the small ants have come forth from holes in the ground.

III

Aba, the good spirit above, created many men, all Choctaw, who spoke the language of the Choctaw, and understood one another. They came from the bosom of the earth, being formed of yellow clay, and no men had ever lived before them. One day all came together and, looking upwards, wondered what the clouds and the blue expanse above might be. They continued to wonder and talk among themselves and at last determined to endeavor to reach the sky. So they brought many rocks and began building a mound that was to have touched the heavens. That night, however, a wind blew strong from above and the rocks fell from the mound. The second morning they again began work on the mound, but while the men slept that night the rocks were again scattered by the winds. Once more, on the third morning, the builders set to their task. But once more, as they lay near the mound that night, wrapped in slumber, the winds came with such great force that the rocks were hurled down on them.

The men were not killed, but when daylight came and they made their way from beneath the rocks and began to speak to one another, all were astounded as well as alarmed—they spoke various languages and could not understand one another. Some continued to speak the original tongue, the language of the Choctaw, and from these sprang the Choctaw tribe. The others, who could not understand the language, began to fight among themselves. Finally they separated. The Choctaw remained the original people, the others scattered, some going north, some east, and others west, forming various tribes. This explains why there are so many tribes throughout the country at the present time.

IV. OKWA FALAMA, THE 'RETURNING WATER,' OR FLOOD

On a certain day, many generations ago, and at a time when the earth was different from what it is now, Aba, the good spirit above, again appeared to the Choctaw. At first all who beheld him were startled and did not know how to act or what to say or do; but soon Aba told them to stop and listen, that he had appeared to them to deliver important words.

Soon all the Choctaw gathered to listen to the words of Aba. And he told them to build a large boat and when they had finished it to place in it all the birds and beasts of their country, and to gather food for the birds and the beasts together with a sufficient quantity to last themselves some days. They were then shown by Aba where to build the boat, and, as the spot he selected was high and dry and far from any water, the majority of the people lost confidence in what he told them and so went their ways, leaving only one family to build and stock the boat. Aba then told them that all must be in readiness within a certain time. The boat was at once begun, and while it was being built many strangers passed and asked the Choctaw why they were building a large boat there, far from any water. And the Choctaw replied and said they were following the commands of Aba; but why they had been so commanded they did not know.

The boat was completed long before the expiration of the specified time. Then the people went into the forests and swamps and collected all the animals, always getting two, a male and a female of each. And when all the animals had been gathered on board the boat, they called the birds and likewise took a male and a female of each. Next, food for all was gathered and placed aboard the craft. All being thus completed the Choctaw then went aboard the boat—thus fulfilling the commands of Aba.

That same night, after all the birds and beasts and likewise the builders of the boat were resting aboard the craft, rain began to fall and the wind blew with such force that the tallest pine trees were carried away. Thunder

crashed in a manner such as had never before been heard, and the vivid flashes of lightning made all appear at times as bright as day.

All other people now realized that they too should have believed the words spoken by Aba. They hastened and endeavored to construct boats or rafts; but it was too late and all were soon swept away by the gathering waters.

Soon the waters covered the land, and steadily it became deeper and deeper, and at last it surrounded the high land upon which the boat had been constructed. The water continued to gather and finally the boat floated; the water soon reached to the sky. The boat was blown about, first in one direction then in another, but neither it nor any of its many occupants experienced any damage.

On the morning of the fifth day the winds subsided and the sun shone forth bright and warm through the dark clouds. But when the people looked about them no land was visible, they were drifting on a broad expanse of water and often trees and dead animals floated on the surface near them, all bearing evidence of the severity of the storms and of the greatness of the catastrophe. And with the exception of the birds and beasts and people gathered in the boat, and the fishes in the water, all life had become extinct.

That same morning the crow and the dove were called and told to fly and endeavor to find land. They first went east, then south, and later west, but always returned without having seen any land. Crow then flew north and soon returned carrying with him a magnolia leaf and told of having seen an island. And as the boat was drifting in that direction they reached land before the sun had set that night.

As soon as the boat drifted to the shore of the island, the people and all the birds and animals went on land.

The willow was the only tree found growing on the island, and the people by rubbing two pieces of this wood together soon kindled a fire. While some were looking about the island they discovered a quantity of small white grains, unlike any they had ever before seen. Taking some of the grains, they placed them in the ground and from them grew the first corn ever raised by the Choctaw. Thus Aba had provided them with food.¹

V

Many generations hence the country will become crowded with people. Then there will be tribes that do not now exist. They will so increase in

¹For other versions of this myth consult Charles Lanman, *Adventures in the Wilds of the United States*, Philadelphia, 1856, vol. II, p. 429; and George Catlin, *Letters and Notes*, London, 1841.

numbers that the land will scarcely sustain them. And they will become wicked and cruel and so fight among themselves, until at last Aba will cause the earth to be again covered with water. Thus mankind will be overwhelmed and all life will become extinct.

Time will pass, and the waters will subside, the rivers will flow between their banks as before. Forests of pine with grass and flowers will again cover the spots of land thus left dry by the receding waters. Later man and birds and beasts will again live.

In some of these myths missionary influence is so patent as to require no comment. The sacred hill of Nané chaha, however, has been mentioned by various writers in the past. Claiborne¹ has recorded a very interesting reference to the hill, and has also identified the site. After referring to the legendary wanderings of the early people he continues:

"The main body traveled nearly due south, until they came to the Stooing Hill, *Nane-wy-yah*, now in the county of Winston, Mississippi, on the head waters of Pearl River. There they encamped and still continued to die. Finally, all perished but the book-bearer. He could not die. The *Nane-wy-yah* opened and he entered it and disappeared. After the lapse of many years, the Great Spirit created four infants, two of each sex, out of the ashes of the dead, at the foot of *Nane-wy-yah*. They were suckled by a panther. When they grew strong and were ready to depart, the book-bearer presented himself, and gave them bows and arrows and an earthen pot, and stretching his arms, said, 'I give you these hunting grounds for your homes. When you leave them you die.' With these words he stamped his foot—the *Nane-wy-yah* opened, and, holding the book above his head, he disappeared forever. The four then separated, two going to the left and two to the right, thus constituting the two Ik-sas, or clans, into which the Choctaws are divided. All the very aged Choctaws, on being interrogated as to where they were born, insist that they came out of *Nane-wy-yah*."

In a footnote on the same page, Claiborne says:

"It [the hill] is on the head waters of Pearl River, and not far from the geographical center of the State. From information derived from Mr James Welsh and Dr S. P. Nash, of Neshoba county, the mound is described as some fifty feet high, covering about three-quarters of an acre, the apex level, with an area of about one fourth of an acre. On the north side of the mound

¹ J. F. H. Claiborne, *Mississippi as a Province, Territory and State*, Jackson, Miss., 1880, vol. I, p. 519.

are the remains of a circular earthwork or embankment, that must have been constructed for defensive objects. Many of the Choctaws examined by the Commissioners regard this mound as the mother, or birth-place of the tribe, and more than one claimant declared that he would not quit the country as long as the Nan-a-wy-yah remained. It was his mother, and he could not leave her."

Such was the belief of the Choctaw of past generations, and the statements also serve as a verification of the antiquity of the myth as related by Pisatuntema.

Thus, like many other primitive tribes, the Choctaw regarded the earth as their mother, and so held in reverence and awe the spot, Nané chaha, from whose summit they claimed to have first beheld the light of the sun.¹

The next section of the myth, III, appears to be a Choctaw rendition of the story of the building of Babel as told in the Old Testament. The Choctaw undoubtedly heard the story from the early missionaries, but certain parts of this version appear to be of native conception, consequently it may be that we have here their own ancient myth combined with, or modified by, the story told them by the missionaries.²

The legend of the flood, IV, likewise shows strong evidence of having been influenced by the early teachings of the missionaries, although the majority of the American tribes are known to have had a somewhat similar myth of purely native origin.

Two versions of the Choctaw myths as they were told many years ago are recorded in *The History of the Choctaw, Chickasaw and Natchez Indians*, by H. B. Cushman, 1899, p. 282 *et seq.* Brinton³ omitted the Choctaw from his list of American tribes possessing a well-authenticated legend of the flood, nevertheless it is evident that that tribe did possess such a myth, although the version related by Pisatuntema may show to a marked degree the influence of her Catholic instructor, Père Adrian Rouquette, who died some twenty years ago. In the last section, V, is given the Choctaw belief of the coming destruction of the world—a belief held by many primitive people.

¹For various references by different writers, see Brinton, *Myths of the New World*. N. Y., 1876, p. 242.

²This was previously published in *The Choctaw of Bayou Lacomb*, *Bulletin 48* B.A.E., Washington, 1900, page 30.

³*Op. cit.*, p. 226.

The Choctaw appear to possess a vast number of folk tales, all of which have probably been told and retold through many generations. From Pisatuntema and others at Bayou Lacombe, the writer collected the tales recorded on the following pages.¹

NALUSA FALAYA, OR THE LONG EVIL BEING

The Nalusa Falaya somewhat resembles man. It is of about the size of a man and walks upright, but its face is shriveled, its eyes are very small and it has quite long, pointed ears. Its nose is likewise long. It lives in the densest woods, near swamps, away from the habitations of men. In some respects it resembles Kashehotapalo.²

Often when hunters are in the woods, far from their homes, late in the day when the shadows have grown long beneath the pine trees, a Nalusa Falaya will come forth. Getting quite near a hunter it will call in a voice resembling that of a man. And some hunters, when they turn and see the Nalusa Falaya, are so affected that they fall to the ground and even become unconscious.

And while the hunter is thus prostrated on the ground, it approaches and sticks a small thorn into his hand or foot, and by so doing bewitches the hunter and transmits to him the power of doing evil to others; but a person never knows when he has been so bewitched by the Nalusa Falaya until his actions make it evident.

The Nalusa Falaya have many children which, when quite young, possess a peculiar power. They possess the power of removing their viscera at night, and in this lightened condition they become rather small, luminous bodies that may often be seen, along the borders of marshes.

HASHOK OKWA HUI'GA

There is a certain spirit that lives in marshy places—often along the edges of swamps. It is never seen during the day, only at night, and even then its heart is the only part visible. Its heart appears as a small ball of fire that may be seen moving about, a short distance above the surface of the water.

At night, when a person is passing along a trail or going through the woods, and meets the Hashok Okwa Hui'ga he must immediately turn away and not look at it, otherwise he will certainly become lost and not arrive at his destination that night, but instead, travel in a circle.

The name is derived from the three words: *hashok*, grass; *okwa*, water; *hui'ga*, drop.

¹For other legends, told by the same Choctaw see *The Choctaw of Bayou Lacombe, Bulletin 48, B.A.E., 1909.*

²The legend of Kashehotapalo is given on p. 31 of the *Bulletin* cited above.

The two preceding tales refer to the *ignis fatuus* often seen along the swamps of St Tammany parish.

HOW THE SNAKES ACQUIRED THEIR POISON

Long ago a certain vine grew along the edges of bayous, in shallow water. This vine was very poisonous, and often when the Choctaw would bathe or swim in the bayous they would come in contact with the vine and often become so badly poisoned that they would die as the result.

Now the vine was very kind and liked the Choctaw and consequently did not want to cause them so much trouble and pain. He would poison the people without being able to make known to them his presence there beneath the water. So he decided to rid himself of the poison. A few days later he called together the chiefs of the snakes, bees, wasps, and other similar creatures and told them of his desire to give them his poison, for up to that time no snake, bee or wasp had the power it now possesses, namely that of stinging a person.

The snakes and bees and wasps, after much talk, agreed to share the poison. The rattlesnake was the first to speak and he said: "I shall take the poison, but before I strike or poison a person I shall warn him by the noise of my tail, *intasha*; then if he does not heed me I shall strike."

The water moccasin was the next to speak:

"I also am willing to take some of your poison; but I shall never poison a person unless he steps on me."

The small ground rattler was the last of the snakes to speak:

"Yes I will gladly take of your poison and I will also jump at a person whenever I have a chance." And so it has continued to do ever since.

TURTLE AND TURKEY

Turkey met Turtle on the road one day and said to him:

"Why are you so hard, without any fat?" "I was born that way," replied Turtle. "But you cannot run fast," said Turkey. "Oh yes I can; just watch me." And with that Turtle walked along the road. "Well, even if you walk you are not able to run." And then Turtle raised his head and went, as fast as he was able, down the path, but Turkey by walking only slowly could easily overtake him and so passed him. That being so easily accomplished Turkey laughed at Turtle and said to him: "You are too slow; let me have your shell; I will put it on and run with the other turtles and easily beat them in a race."

Turkey then took Turtle's shell and, getting in it, assumed the appearance of a Turtle. Soon meeting four other turtles all decided to race, and, of course, Turkey was victorious.

TURTLE, TURKEY, AND THE ANTS

Turtle was asleep in some high grass when along came Turkey, who stepped upon him, crushing his shell, but not killing him. Turtle became angry and asked Turkey if he was not able to see him in the grass. "No," replied Turkey, "you are so low; you should learn to walk as I do and hold your head up, that you might be seen." But Turtle said he was not able to do so.

And then Turtle told Turkey to call the ants to come and repair him. Soon the ants arrived with many strands of colored thread. First they gnawed away the flesh and fat and so cleaned the broken bones. Then, with their colored threads, they sewed together the fragments of bones, thus making a hard bone covering on the outside of Turtle. The colored threads used by the ants may still be seen as colored streaks on the outside of Turtle's shell.

RACCOON AND OPOSSUM

One day, long ago, Coon and 'Possum met in the woods. 'Possum then had a very large, bushy tail similar to Coon's, but it was quite white, not with stripes upon it and dark, as was Coon's. And when they met 'Possum said to Coon: "Why is your tail dark, with stripes upon it, while mine is only white?" Then Coon answered him saying: "I was born so, but if you will do as I tell you, yours will also be dark." "But what am I to do?" asked 'Possum. "I am willing to do as you tell me," Thereupon Coon told 'Possum to make a fire and hold his tail near it, and that soon the white hairs would turn brown, but to be very careful. And together they kindled a fire of leaves and twigs. But 'Possum, very eager to turn the hairs brown, went too near the fire and actually burned the hairs off of his tail, and it has remained bare ever since.

THE GEESE, THE DUCKS, AND WATER

The geese and ducks were created before there was any water on the surface of the earth. They wanted water so as to be able to swim and dive as was their nature, but Aba objected and said he would not allow water on the earth as it was dangerous, and he then said to the geese and ducks: "What is the good of water, and why do you want it?" And together they answered "We want it to drink on hot days." Then Aba asked how much water they wanted and the ducks replied: "We want a great deal of water; we want swamps and rivers and lakes to be scattered all over the surface of the earth. And also we want grass and moss to grow in the water, and frogs and snakes to live there."

Aba asked the geese and ducks why they wanted frogs and snakes to

live in the water and they answered that frogs and snakes were their food, and they told Aba how they could dive and swim beneath the water and catch them. And then Aba told them how he had made the sun, the air, and the earth and asked if that was not enough. "No," was the reply of all, "we want water."

The alligators then spoke to Aba and likewise asked for water. The alligators told of their desire to live in dark places, deep in the waters of bayous, among the roots of cypress and black gum trees, for there the water was the best.

Aba then spoke to all saying he would give them all the water they desired, but that he had talked with them to hear what they would have to say.

And even now the ducks and geese claim the swamps and marshes.

The preceding may be regarded as fair examples of the primitive folk-tales of the Choctaw. They are free from any indications of having been derived from stories of European origin. Environment has been the chief factor in the development of these tales. The dense swamps and forests surrounding the homes of the Choctaw were regarded by them as the haunts of mysterious beings to whom they attributed any injury that befell their hunters while away from home. To these same "spirits" were attributed any unusual sounds as well as natural phenomena. Thus in the mind of the Choctaw they were at all times surrounded by spiritual beings, some of which would make themselves visible to the hunters, while others only manifested their presence by weird sounds.

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RECENT DISCOVERIES IN HONDURAS¹

By A. HOOTON BLACKISTON

MAN wherever his habitat or whatever the color of his skin at similar stages in his development has like wants and hence devises similar utensils and weapons. He at the same time evolves religious ideas strikingly akin to each other, and, in the primitive periods, peoples the air, the earth, and the sky with spirits and devils—some to be humored and propitiated, others to be appealed to by means of various forms and ceremonies. For these purposes caves have been used from the time when the first faint rays of dawning religion illumed the ignorance of prehistoric man almost down to the present day. Especially is the folk-lore of the American nations rich in this respect, and so little surprise will be evinced at the news of the recent discovery of a cave in Honduras strangely indicative of this character.

This was first found by an old Indian on one of his hunting trips in 1908 and the knowledge kept an inviolable secret until a few months ago owing to his total misconception of the nature of the find and the absence of the one man in whom he had confidence. Finally upon the return of his padrone he divulged the information that he had discovered an enormously rich mine abounding in a strange metal in the form of bells of many varieties. Thus this cave, containing probably the largest deposit of copper bells ever found on the American continent, first became known largely through chance.

It is situated far within the Honduran mountains upon an arroyo on the headwaters of a small stream flowing into the Rio Chamelcon, and about twenty-five miles distant from the ruins of the ancient city of Naco. Thick tropical vegetation guards its

¹ The writer desires to acknowledge his indebtedness to the courtesy of Captain William Owen, the American Vice-Consul General to Guatemala, and to Mr W. E. Alger, also of the American consular service, whose hospitality and whose knowledge of the country proved of the greatest assistance in all places and under all circumstances.

approach from every quarter, four machete men hacking and hewing at the tangled mass of vines and brush being necessary to cut a path which led through the dense jungle, across quicksands, along the beds of rushing streams and up the steep mountain side. Drenching rains and treacherous footing made access to it still more difficult. Once the writer's mule—a veteran of several revolutions who had borne his former owner to a minister's portfolio—slipped at the last moment down the mountain, after having swum rivers infested with alligators and climbed everything but a rope ladder. Fortunately a mass of tropical growth effectually stopped his further downward progress. But all difficulties and discomforts were quickly forgotten when, after struggling on foot to the deep and narrow arroyo, and sliding down its rocky side, the dim outlines of the cave loomed with almost startling suddenness upon the view. Hidden as it is by nature behind a dense screen of rocks and tangled tropical foliage it must have been the sheerest accident alone that led even an Indian to discover it.

The entrance is forty feet wide and contains what seems to be decided signs of copper stain on its walls, while in depth it extends fifty-six feet into the mountain, and decreases from twenty feet in height in the front portion to about four feet in the rear. It appears almost certain that it was never inhabited as the bottom slopes at an angle of forty-five degrees towards the mouth while there is further not the slightest evidence of building signs nor smoke stains. No pictographs are found on the walls nor on the nearby rocks and there also seems to be a total lack of *trincheras* or other similar works in the neighborhood.

The greatest interest therefore centers around the culture symbols which so excited the fears and hopes of the old Indian. He first found a few copper bells lying upon the surface, and later excavations revealed hundreds of specimens of all shapes and sizes from the most minute type to ones nearly three inches in diameter, and from plain, conventionally shaped ones to others highly artistic in design and construction (plate XLV). The most interesting examples are in the form of fanciful faces of men and eccentric shapes of animals. Among the finest are designs following the lines of a turtle with elongated neck bent backward to serve as a handle; one with a

face in which the chin and the nose are greatly exaggerated and prolonged as in our own caricatures of witches; others representing strange creatures akin to the dragon of romance curled around a well shaped bell, while great broad gnome-like faces in which the opening of the bell represents the mouth with two large teeth protruding, one on either side, are found in several instances and in others the form of grotesque bat heads—being varied in different specimens by the presence of horn-like ears upon the forehead, high ringed eyes and other typical idiosyncrasies—all carried out with consummate

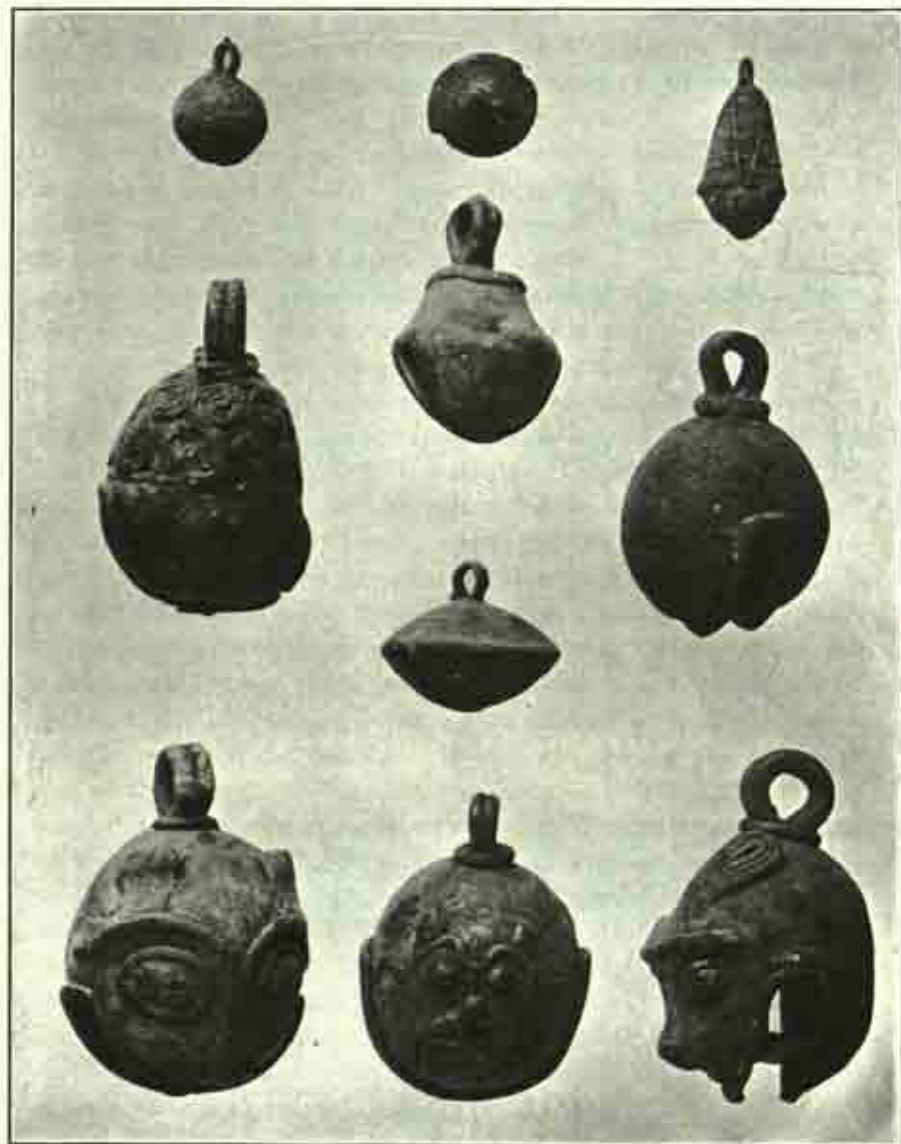


FIG. 56. — Notable bell with faces of negroid and Mayan types.

skill and finish. One of the most notable specimens represents a flat negroid face with wide open mouth out of which protrudes another face of totally different type with large nose and staring eyes (fig. 56). There are also numberless bells formed like our sleigh bells, and smaller button-shaped ones each with a clear ringing note made by the ball of copper inserted as a clapper, and each having a separate tone. Indeed almost the entire scale may be run upon a number

of the bells. They all have a copper loop securely fastened on the back or top—some plain, others gracefully twisted and welded.

These bells are not only surprising in regard to their designs but are especially wonderful on account of the workmanship and technique displayed. There seems to be no doubt that many were cast in moulds: some have the appearance of having been beaten, or at least finished, in that manner, while others were built up of tier upon tier of finely spun wire, recurring scrolls and other running designs being superimposed in delicately shaped coils of copper. At times this latter method was applied to the whole bell, at others to



TYPES OF COPPER BELLS FROM CAVE

From Blackiston collection, U. S. National Museum.

the upper section only. The workmanship as a whole is characterized by a boldness of conception and design and a masterful treatment and finish that places it upon a plane distinctly by itself in the aboriginal work of this nature. The copper of which these bells are constructed contains gold in small quantities.

Over eight hundred specimens have been found, and even a number of pieces of native copper from three to seven inches in length out of which they were fashioned, also some strips of beaten copper not yet shaped into any form. Though, as already stated, portions of the cave bear a green stain that resembles copper, the mine from which the metal was taken is not in the immediate vicinity though a comparatively short distance away.

While the chief items of interest are undoubtedly the bells, a number of excellently shaped spear-points have been secured, one about ten inches long to which a portion of a petrified wooden haft was attached. Some beads of polished stone, a few shells of a snail that lives in a nearby stream, and a number of objects of a distinctly ceremonial or religious nature were likewise discovered here.

First in interest in the writer's collection is a large life-sized mask of white cedar which was covered with mosaics of turquoise and other stones set in a thick gum or pitch with which it was coated (plate XLVI). Three greatly elongated straight projections answer for the nose and the two lips. Holes were cut for the eyes and two small ones on the sides for the thongs which bound it to the head. A large cavity in the forehead was evidently the setting of the crowning stone of the collection though of what nature this was we unfortunately are unable to surmise as it evidently became loosened and dropped out years before its discovery. Along the sides of the face are depressions in the coating of gum for regularly shaped stones about half an inch long by three-eighths of an inch in width arranged in parallel rows—none of which remain at present. The rest of the surface, as noted, was covered with small turquoise mosaics, a number of which are in place today.

An idol about eight inches high carved out of *palo negro* (ebony) was also found in the cave. It contains two faces, one above the other, the upper one being the better and facing directly forward while the lower is characterized by a large curved nose and is turned

towards the left—one side of the face being drawn as if in a smile or grimace. A tiger head was carved on its back. Below the faces the neck was indefinitely projected to serve as a handle or a fastening into the body of an idol of more perishable material—probably the former.

Another face of hard white stone one and a half inches long with a hole in the top, was also found. With the possible exception of the mussel shells alluded to, which might very readily have been an intrusive product of a later date, there were no signs of domestic occupancy—no wall lines, no bones, no potsherds, no charred embers—only objects of ceremonial use.

It is therefore very evident that this cave was used solely for religious purposes by a people who were well versed in the working of metal and the lapidary's art—accomplishments which in the course of human development have come only when a nation has been able to attend to the primal wants of man—food, clothing, and habitation, and has consequently advanced many strides along the course of civilization.

Its propinquity to the site of ancient Naco, the richness of the culture symbols, and the apparent absence of all nearby ruins would suggest the possibility of a connection with the inhabitants either of that city or at least of the nation of which it was the capital.

While much of the work has a distinctly individual tone the majority shows a decided Mayan influence in feature and treat-

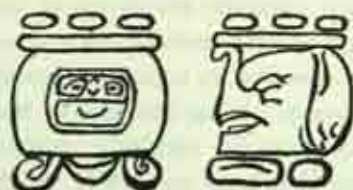
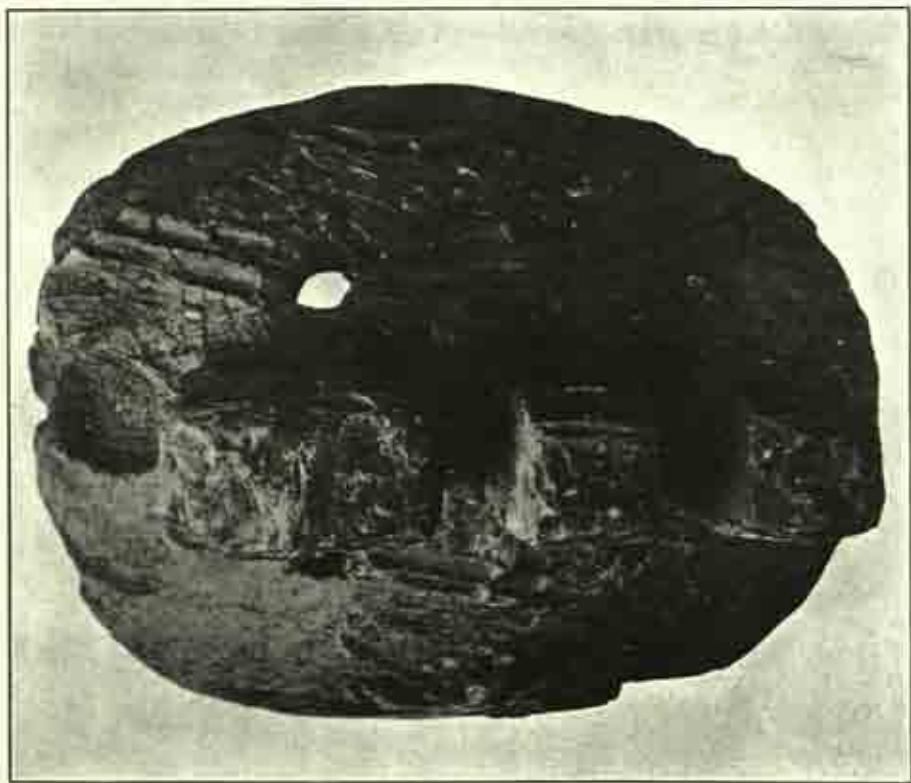


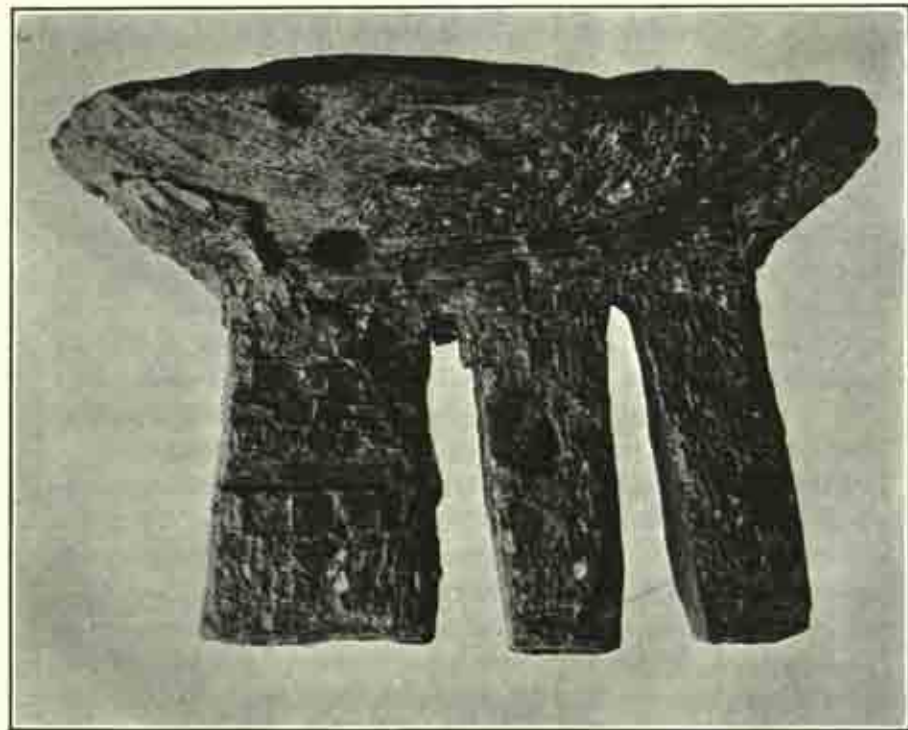
FIG. 57.—Mayan symbol of the bat god.

ment, and the presence of native copper in the cave indicates that the bells were probably made there. It seems extremely probable that we have here come in contact with the worship of the Mayan bat god, the deity of mountain caverns (see fig. 57). Not only do

some of the bells resemble a bat's head, but it will be remembered that Zotziha Chimalcan—the Cakchiquel god who controlled fire and who was represented by a bat (zotz) was a god of darkness and of caves,—and that Zotziha, "the bat's house," was one of the regions which confronted those who travelled to the kingdom of



1



2

LIFE-SIZE CEREMONIAL MASK ORIGINALLY INLAID WITH TURQUOISE
 1, front view; 2, side view From Blackstone collection, U. S. National Museum.

death in the depths of the earth, where dwelt Cama-Zotz, "the Death Bat," "the Destroyer," who bit off the head of the brave Hunahpu when he descended into the lower world.

Indeed of such prominence was the worship of this god of the caves and the under-world that the name of a division of the Cakchiquels, the Zotzil tribes ("bat people"), was derived from it—and also the name of another clan that lived near the border between Honduras and Guatemala. It seems therefore likely that the rites which were celebrated in this cave were a southern extension or development of those in honor of Zotziha Chimalcan.

As regards the age of the specimens there is of course much uncertainty—the state of the woodwork of the mask and its general condition would seem to denote a fairly remote antiquity, while the bells and the petrified spear-haft point in the same direction.

It may safely be said that these bells have been silent through the centuries, at least since the Spaniard first conquered the New World, awaiting in their gloomy shrine the distant coming of the old Indian to awaken them again to life. How much farther back they extend it is impossible to state. The priests have gone, the weird rites too have long been forgotten, and even the ruins of the cities of the worshippers have disappeared, yet the bells remain—to greet in the voice of the Past the ever changing Present.

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THE GREAT MYSTERIES OF THE CHEYENNE

By GEORGE BIRD GRINNELL

THE Cheyenne have two great mysteries—the medicine arrows and the sacred hat. These came to them long, long ago, brought by their culture heroes, and have always remained their most sacred and most cherished possessions. They were a spiritual protection to the tribe, talismans given them by the Creator to help the people to health, long life, and plenty in time of peace, and in time of war to protect and strengthen them and give them victory over their enemies. So long as due reverence was paid to these relics, and the ceremonies were performed which the culture heroes had been taught and had told them must be practiced, the influence of these protective gifts was beneficial and helpful, but failure properly to respect them was certain to be followed by misfortune to the tribe.

MAHŪTS', THE MEDICINE ARROWS

It is believed that the arrows (Mā hūts') belonged particularly to the Tsīs tsīs' tās, or Cheyenne proper, while the sacred hat belonged originally to the Suh'tai. The arrows were therefore received by Mōt sī ī' ū īv, while the sacred hat was received by Tōm ō sīv' sī, Erect Horns, sometimes also called Hō īv nī ēsts', Standing-on-the-ground. Some of the stories declare that these two heroes were in the sacred lodge of the Mā ī yūn' at the same time and received the two tribal "medicines" and the instructions concerning them at the same time. Other accounts declare that Standing-on-the-ground brought out the hat from the spring called Old Woman's Water at the same time that the buffalo and the corn were received. The story of the Cheyenne culture heroes, as I have received it, is told in two papers already printed.¹

The arrows were a medicine for the men alone—women might

¹ *Journal Am. Folk Lore*, vol. XX, p. 169, July-Sept., 1907, and vol. XXI, p. 3, Oct.-Dec., 1908.

not look at them. The hat was chiefly for women. Both were strong war medicines.

The arrows are sometimes referred to as the first the Cheyenne ever saw—the models from which all subsequent arrows were made—but this is not the case. The medicine arrows appear rather to typify subsistence and defense. Two of them, called "buffalo arrows," represented food, because it was by arrows that they procured food—the flesh of animals. The other two were called "man arrows" and represented war—perhaps victory over their enemies, perhaps only a means of attacking their enemies. The hat more directly representing food—and called *Is' sī wūn*, buffalo—had to do with the immediate things of the camp, food, health, clothing, and shelter.

Many widely different stories of no special importance are told to account for the coming of the arrows, but the true tradition is as given in the articles referred to.

The shafts of these arrows are like those of ordinary arrows. The heads are of stone and small. The wood of the arrows does not appear to be that commonly used for this purpose—the cornel or dog-wood. Arrows when kept tied up for a long time usually become bent and warped, but the Pawnee, who have had two of these arrows in their possession for eighty years, declare that they have not become bent.

The shafts and heads of the arrows are supposed to be the ones that were originally brought by the culture hero but the feathers and the sinews have been frequently renewed. The buffalo arrow-shafts were painted red, while the man arrow-shafts were black. The man arrows were feathered with the tail feathers of the war eagle and the buffalo arrows with the tail feathers of the gray eagle, the young of the bald eagle.

The arrows were in charge of a certain especially appointed man, and it was the duty of his wife to carry them according to the ritual received by *Mōt sī ī' ū lū*, from the spirits, the Listeners-above-the-ground (*Hē ām' mā mā l yūn' tsī āst' tō mūnī*) and the Listeners-under-the-ground (*Āstū' no mā l yūn' tsī āst' tō mūnī*). This ceremonial way of carrying the arrows has been described in the *Journal of American Folk-Lore* as already noted.

The keeper of the medicine arrows from his charge of this most important mystery was in a sense the director of the tribe's affairs. The office belonged to a special family. If the keeper of the arrows died, his younger brother took them or his son—if old enough,—and again the brother or son of this man. The present keeper is Little Man, the cousin of Black Hairy Dog, his predecessor. Black Hairy Dog received them from his father, Stone Forehead, who, from his office, was called by the whites Medicine Arrow. He was preceded by Lame Medicine Man and he, by Elk River, while White Thunder was the keeper of the arrows in 1830—and nobody knows how long before—and until his death. He is the earliest arrow keeper known, but in traditions telling of a move of the arrows against the Shoshoni, which is believed to have taken place in 1817, mention is made of a man named Dog Faced Medicine Man, who may perhaps have been the arrow keeper at that time. The known arrow keepers are six, and the list carries us back about eighty years. These are, to recapitulate:

Wōhk pl nō nū'mā, White Thunder, killed in 1838 as an old man, perhaps 75 years of age.

Mō ē l' ō hē, Elk River, died in 1838 from swallowing the juice of the root sacred to the arrows. He misunderstood his duty, and instead of merely holding some of the root in his mouth while performing the ceremonial acts, he chewed it and, swallowing the spittle, was poisoned, and died.

Mā l yūn' l nūhk nūhk'', Lame Medicine, died in 1849 after the cholera.

Hō hō nāi' l vī ūhk' tăn u, Stone Forehead, died in 1876 while on a visit to the Northern Cheyenne.

Mūhk stā' l plh' pih'', Black Hairy Dog, the son of Stone Forehead, died about 1883.

Hāh kē', Little Man, cousin to Black Hairy Dog.

The arrow keeper, when he expected to die, was likely to designate his successor in the care of the arrows, and his wishes would be respected. If, however, he designated no one, and there was no relative who cared to assume the charge of them, any man was at liberty to go to the family of the arrow keeper and say that he would take them in his care.

The man assuming the charge of the arrows was expected to make a sacrifice in a special way. From the top of the shoulder, the

upper arm, the fore-arm, and the outside of the thigh on both sides, from over both shoulder-blades and from over the loin of either side, four narrow strips of skin were cut, those on the arms being about two inches long and half an inch wide, those on the legs and back about three inches long (fig. 58). Besides this, on the outside of each leg, a long strip of skin was removed and another long strip from the outside of each arm reaching from wrist to shoulder and then passing down diagonally to the lower part of the sternum, where it met the strip taken from the other side. Just above the point of meeting, a circular piece of skin about three or three and a half inches in diameter was removed, this representing the sun, while above it on the chest a crescent shaped piece of skin of about the same length from point to point represented the moon. Originally these pieces of skin were taken out with a flint knife. At the time when Stone Forehead died, his son and successor was far away with the Southern Cheyenne. It was therefore impossible for him to perform the ceremonial cuttings on his son, and as they had not been performed on Black Hairy Dog, the latter could not cut his successor. The practice thus became obsolete.

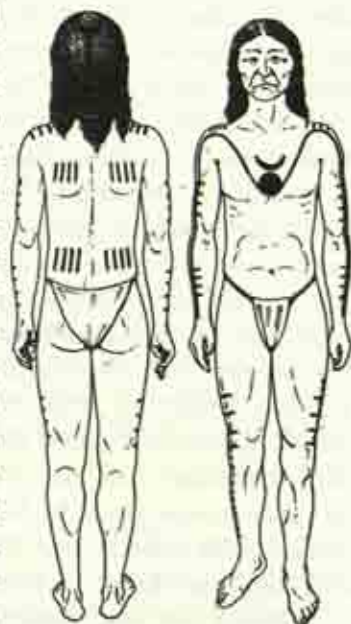


FIG. 58.—Oldtime cutting in the skin of medicine-arrow keeper.

The renewing of the medicine arrows was perhaps the most solemn religious ceremony the Cheyenne knew. The operation consisted in taking the points from the arrows, replacing them, with fresh windings, and renewing the feathers. This ceremony was sometimes performed to prevent anticipated evil, sometimes to put an end to a present misfortune, and sometimes as an atonement or sacrifice. If the Cheyenne were engaged in wars and many of their people were being killed, or, if a man of the tribe had been killed by one of his fellows, the arrows were renewed. On such an

occasion, when taken out and inspected the heads of the arrows were found to be bloody, or to be dotted with little specks of blood. Sometimes such marks were seen on the arrows when nothing of this kind had taken place, and in such a case the people knew, either that someone would be killed or else that a great sickness threatened the camp. A man in great danger might pledge himself to renew the arrows if he escaped, or, if badly wounded, he might promise to renew them if he recovered.

The ceremony did not occur with any regularity. It was not annual like the medicine lodge, but took place when occasion seemed to demand. The arrows might be renewed two or three times within a single year, or a year or more might elapse between the performances of the ceremony. It might take place at the request of a soldier band, or on the advice of priests, but the ceremony might not be performed without the consent of the keeper of the arrows. On one occasion, however, a soldier band, by violence, forced the arrow keeper against his protest to renew the arrows at an inauspicious time. The arrow keeper, White Thunder, prophesied that the next time this soldier band went to war all its members would be killed. The very next spring when this soldier band went to war the party of forty-two was surrounded, and they were killed to a man.

When it had been determined that the medicine arrows should be renewed, runners were sent to each outlying camp to summon all the people to come together. Usually all were glad to obey, since the renewing of the arrows was for the general welfare and all wished to share the good influences exerted by the ceremony. People not present at the renewing of the arrows were thought to be no longer under their favorable influence—no longer protected by them and so exposed to a variety of misfortunes. If any little groups of people were unwilling to come in, it was the duty of the soldiers to force them to do so, and, if they were obstinate and inclined to refuse, they were punished by the destruction of their lodge poles, the cutting up of their lodges, or perhaps even by the killing of their horses. If some still refused to obey, the camp circle was so placed that its opening should not face in the direction of the camp of recalcitrants.

It is difficult to find a tradition of one who has refused to come

to this gathering when summoned, yet about forty years ago Big Ribs, a famous man among the Southern Cheyenne declined to obey the summons of the soldiers. He had served as a scout with the white men and his faith in the protective power of the arrows had been shaken. Several times he was sent for and declined to obey, and at length one day he saw a body of soldiers coming toward his camp, and believed that they intended to use harsh measures. With rifle in hand he stepped out in front of his lodge and stopped the soldiers when they were yet at a distance. He called out to them saying they had already come for him a number of times, and that he did not intend to obey their orders. "There are many of you," he said, "and if you choose to come for me you can kill me, but you all know me. I have a number of shots in my gun and before you kill me I shall probably kill several of you. If you come toward me beyond that bush I shall begin to shoot." Big Ribs was known as one of the bravest men and greatest warriors among the Cheyenne, and the soldiers after consulting together turned back and did not trouble him further. He is said to be the only man that ever faced and frightened off a band of the Cheyenne soldiers.

When the arrows were to be renewed all of the people came together in a great gathering. The occasion was one of kindness and good feeling among them; feasting went on continually, and men, women, and children visited one another and renewed old friendships; while relatives saw their young kinsfolk whom they had never met before.

As the people drew together, the soldier bands that had charge of the ceremony ordered the pitching of the circle with unusual care. In its center a shelter or shade was built as headquarters for the soldiers, and from these headquarters men were constantly moving about the camp to see that the inner circle was exact, that no lodges stood too far forward and that the largest lodges were pitched on the inner side of the circle. The outer border of the circle was unimportant and the lodges of any clan might extend out into the prairie. While the soldiers were riding about, attending to the forming of the camp circle, they were at liberty to shoot with an arrow any dog that they might care to. This they often did, choosing a fat young dog and having a feast.

While the work of renewing the arrows was going on everything in the camp was kept very quiet, and when the old feathers were about to be taken off soldiers passed about through the camp and obliged all persons to enter their lodges and remain there until this work had been done. However, women who were at a little distance from the camp—down at the stream getting water, or working quite outside the camp—were not usually forced into their lodges, yet occasionally it happened that those who were dressing hides at a little distance and did not at once cease their labors, if advised to do so, had their robes cut up as punishment.

This was an especially favorable time for practicing the healing art. Sweat lodges were built outside the circle and in them the sick were treated. Doctors renewed their supplies of roots and medicines, pulverizing and mixing their remedies during these four days. Medicines prepared during this time were believed to be stronger and more efficacious than those made at any other season.

It was also a favorable time for the renewal of shields, for painting them over again, putting on new feathers, and repairing them. This work was done in a lodge very quietly. No women were permitted in the lodge. The cooking was done outside and the food brought to the door. If the arrows were renewed in the spring—at which time the bull's hide was in the best condition for making shields—people were likely to make new shields then.

When the time had come for the renewal of the arrows, a large lodge, *Mā hē yūm*, formed of two ordinary lodges, was built in the center of the circle, the shade for the soldiers having been removed, and the bands having gone to their lodges in the circle. Sometimes the work was done in the lodge and sometimes out of doors. In any event only the arrow keeper and his assistants worked at them, though a lodge full of men—old chiefs and men who had previously taken part in the ceremony—might be present.

The man who was to renew the arrows went to the lodge of the arrow keeper, who delivered to him the bundle of arrows wrapped in the skin of a coyote. He who had received it, accompanied by the members of his own soldier society, all of them praying and crying aloud for help, carried it to the center lodge and entered. A large buffalo chip had been placed at the back of the lodge, and

this chip was covered with stems of the white sage. The man very reverently and slowly put down the bundle on this bed.

Then, wearing his robe hair-side out and carrying a pipe, he turned about and left the lodge. Going through the village he offered this pipe to four old men that he had chosen—important men in the tribe, and especially good arrow makers—and asked them to come with him and renew the arrows. When these old men had smoked and so had promised to do as he asked them, he returned to the lodge whither the old men soon followed him. Many good arrow makers feared to take part in this work, and, if they thought it likely that they would be called on to do so, were careful to absent themselves from their lodges when a visit was anticipated. Such men took the responsibility of this work greatly to heart and believed that if anything went wrong—if a sinew broke or a feather slipped—it might bring them bad fortune.

The man who was having the arrows renewed presented one or more horses to the arrow keeper, and to the men whom he asked to help him he presented a horse each, or perhaps a smaller present—a blanket or a robe—the value of the payment depending somewhat on his means. On the other hand, his relatives often contributed property to help make these payments, and these contributions later were repaid by the man, or, if he did not live long enough to make the payment, by his children.

The work done on the arrows was very fine—being the work of the best craftsmen. The sinew on the points extended three or four inches down on the shaft; it was whitened with white clay and it was put on so that the wrapping appeared white. While the arrows were being renewed, a man sat with a pile of sticks before him, and, as each operation was performed on the four arrows, he put aside four sticks to represent the completion of this particular operation on all four. These sticks when counted, are said to have been found to number 144, representing 36 operations.

The old men who were working at the arrows were naked and painted; and the man who had pledged himself to have the arrows renewed, also naked and painted, each foot resting on a large buffalo chip, squatted at the back of the lodge, a little to the left of the fire, as one looks toward the door; that is to say, a little north of west

of the fire, if the lodge faced east as usual. He was obliged to remain in this posture all day long. It was extremely fatiguing. The work on the arrows was carried on at the back of the lodge, a little to the right of the fire.

During the ceremony no dog was permitted to enter the lodge or even to show its head inside, and a man was chosen to sit immediately south of the door to keep dogs out. He was provided with a stick, and all night long he sat there moving the stick up and down ready to strike any dog that might put its head in at the door. As one man could not keep this up for four nights, four men were usually chosen for this task, one for each night.

The work of renewing the arrows occupied four days, and on the morning of the fifth day they were taken out and tied to a forked pole set in the ground, about fifty yards in front of the lodge in the center of the circle. They were not in a close bundle, but were tied a little across one another so that the point and feather of each arrow was plainly visible. The two buffalo arrows pointed upward and the two man arrows downward. Here they stood in the center of the camp, so that all the males might approach close to them and look at them, but the women were not permitted to go near them.

It has been generally supposed by those who knew of the existence of the medicine arrows that these are still in the possession of the tribe. This, however, is not a fact. In the year 1830 the Pawnee captured these arrows from the Cheyenne and they still possess two of them. The Cheyenne recovered one from the Skidi, or Wolf Pawnee, by a trick, and appear to have obtained another from the Sioux, who perhaps had captured it from the *Pitā-hāū i' rāt*, one of the Pawnee tribes.

Dr George A. Dorsey, in vol. v, N. S., of the *American Anthropologist* (pp. 644-658), has told "How the Pawnees captured the Cheyenne Medicine Arrows." The story agrees in many respects with the one I have heard, but some discrepancies appear which should perhaps be pointed out. His account seems to come from the Pawnee. He speaks of four arrows, one painted red, another white, another yellow, and the fourth black. The Cheyenne, however, say, as already related, that the shafts of two of the arrows

were black while two were red. Many years ago the Pawnee told me that the stone points of the arrows had these different colors.

The story of the capture of the arrows by the Pawnee has been told me independently by Gentle Horse, a famous Cheyenne, who participated in the fight, by Pipe Chief, a Skidi, who was present on the Pawnee side, by the daughter of Big Eagle, who led the Skidi in the fight, and by Elk River, who as a boy was present on the Cheyenne side. These accounts, though differing, as is natural, in minor points, agree precisely as to the main facts. Gentle Horse was born in the year 1800 and died in the spring of 1894. Pipe Chief was perhaps a few years younger. Elk River was born about 1818 or 1820, and died in the winter of 1908-9, a very old man. He was the last of the eye witnesses of the events to be narrated. I give first the narrative as told by the Skidi.

The Skidi were on the head of the South Loup in Nebraska and were about to sacrifice a captive to the Morning Star (*Op'rikūs*). A party who were starting out hunting were attacked by the Cheyenne, and they had a battle. Among the Skidi was a sick man who had long been ill and was discouraged and no longer cared to live. Some of the accounts say that this man was crippled by rheumatism. (The Cheyenne on the other hand say that his leg was broken in the fight.) While the fight was going on this man went out and sat down on the ground alone in front of the Pawnee line so that if the Pawnee retreated he would be killed. After he had been sitting there for a short time, a Cheyenne brave named Bull rode out of the line and charged toward the Pawnee, and, when he came to this man who was sitting on the ground, he endeavored to ride over him, and at the same time thrust at him with a lance that he held in his hand, to strike him. The horse which the Cheyenne was riding refused to run over the sick man, but turned aside, and when Bull leaned over and reached out to thrust at the Pawnee, the Pawnee moved his body to one side and avoided the stroke, grasped the lance, and pulled it out of the Cheyenne's hand, almost dragging him from his horse. When the Cheyenne had lost his lance, he turned about and rode back to his line crying. The sick man looked at the lance, and found that it had a flint head, and that back of the head was a bundle done up in a wolf skin. He called out to his people, "Come here quickly and take this. Here is something wonderful (*tī wār' ūks tī* = mysterious)"; and some of the Skidi rode out to him, took the lance, and brought it to Big Eagle, the Skidi chief.

After Big Eagle had received the lance and had looked at it, he charged

the Cheyenne, carrying the lance in his hand; and when he charged them they all retreated. There was one of them who was very brave and wished to strike Big Eagle, for Big Eagle was finely dressed and rode a spotted horse and was doing brave things, and the Cheyenne had said, "Whoever strikes that brave man will do a great thing." When Big Eagle saw that the Cheyenne wished to strike him, he turned his horse and rode away. The Cheyenne followed, and Big Eagle let him almost overtake him and then turned and rode at him. The Cheyenne turned to flee but Big Eagle overtook him and came near enough to strike him in the buttocks with the lance. Soon after this the Cheyenne gave up the fight and went off.

The Cheyenne knew Big Eagle by the name Spotted Horse which they had given him from the color of the horse he rode in this fight.

When the Pawnee examined the bundle tied to the lance they found in it four arrows, flint-pointed and feathered with eagle feathers. They were wrapped in the roach from the skin of a coyote—a strip from the back. Each arrow-head was of a different color, one black, one white, one yellow, and one red. The Pawnee could see that the Cheyenne thought a great deal of these arrows and mourned greatly over their loss. They thought that perhaps they were sacred; and when they had looked at them and had seen their color, they remembered that in the old days when the Skidi used to have medicine lodge dances,¹ they set up about the lodge in which they danced, at the four cardinal points, four posts, big peeled trees, painted, the one to the north black, that to the east white, that to the south red, and that to the west yellow. When they looked at these arrows and saw that they were of the same colors as these posts used to be, they thought that the arrows were perhaps some medicine of the Cheyenne, and that perhaps they even had something to do with the medicine lodge of the Skidi.

With the Skidi at this time were a few of the *Pitā hāu īrāt* and after the fight was over one of the arrows was given to them, while the Skidi kept three.

Some years before this, during an interval of peace, a young Pawnee man had married a Cheyenne girl and had gone to live with her people. Not long after the capture of the arrows the Cheyenne sent this young man as a messenger to ask the chiefs of the Pawnee to come and visit the Cheyenne and bring these arrows with them, saying that they would give them many horses for the arrows. After the chiefs received this message and had talked the matter over, they decided to accept the invitation, but to take with them only two of the arrows. They sent word therefore to the Cheyenne that on a certain day they would be at a place of meeting. Big Eagle started

¹The Young Dog's Dance. *Journ. Am. Folk-Lore*, iv, pp. 307-313.

in time to keep the appointment, taking with him a large party of Skidi, most of whom—because they had been promised so many horses—went on foot. They took with them two of the arrows, one being in charge of Big Eagle while the other was carried by a certain doctor. When the Pawnee were near the appointed place they sent on to the Cheyenne camp a messenger with tobacco, to let the Cheyenne know that they were near. The Cheyenne camp was on the South Platte close to the mountains, not far from a high peak called the Chief Mountain (Pike's Peak).

The Cheyenne sent word to the Pawnee asking them to wait for them on a hill at some distance from the camp, for they wished to come out and receive them with ceremony. The Cheyenne made themselves ready as if for war, painted themselves, tied up their horses' tails, and rode out, and when they were near the Pawnee they charged down on them yelling and shouting. A big dust flew up into the air. The Cheyenne rode round and round the Pawnee, drawing nearer and nearer as they circled about them, and at length some of the Cheyenne began to reach out and touch the Pawnee, to count coup on them, each Cheyenne trying to excite the others to strike the first blow and wound or kill a Pawnee. When they saw the medicine arrow held up by the doctor, who stood on the hill near Big Eagle, all began mourning and crying and tried still more to excite each other. This lasted so long that the Pawnee began to think they wished to fight and would presently attack them, and Big Eagle gave orders to his people to string their bows and get their arrows ready.

Among the Cheyenne was a woman of high rank who had counted coup on her enemies many times. She was like a chief and they honored her more than a man. She rode up at this time, and began to call out to her people and to order them back, and at last she rode in among them, striking them with her quirt until she drove them back so that they scattered in every direction like blackbirds.

After this rebuke the Cheyenne came to their senses and remembered that they had promised the Pawnee many horses and presents for one of these arrows. They now approached the Pawnee as friends and shook hands with them, and some, who were brave, got off their horses and gave them to the Pawnee, while some gave sticks to represent the horses that they would give them when they reached the camp. Some Pawnee received six sticks, some seven, and some ten. The Cheyenne asked the Pawnee to go to their camp, and they set out.

As they were starting, Big Eagle warned the doctor who carried the arrow to look closely after it. He had put it into his sacred bundle. Soon after they set out, a Cheyenne chief, whose name was Bāk sīt' sū, and who

had always been friendly with the Pawnee, rode up beside the doctor and said to him, "Brother, you have traveled a long way carrying your load, and you must be tired. Give me your bundle and let me carry it for you to the camp." "No," said the doctor, "I can carry it very well." Soon after this they came to a river, and just before they reached it Būk sīt' sū again said to the doctor, "Brother, we are going to cross the stream now. Let me carry your bundle for you." The doctor replied to him, "You must ask the chief, Big Eagle, about this." Būk sīt' sū went to Big Eagle and said to him, "Brother, you have come a long distance and you are all tired. You Pawnee are my friends. Let me carry my brother's bundle across the river for him. I shall be right close to you." Big Eagle asked the other chiefs what they thought about this. They said "If Būk sīt' sū will go close in front of him with the bundle, we are willing that he should carry it. Būk sīt' sū agreed to do this, and Big Eagle told the doctor to give him the bundle, but added, "Follow close behind him as you cross over."

The Cheyenne camp was some distance beyond the stream. When they had gotten into the water, Būk sīt' sū whipped up his pony a little, so that it went faster than the doctor could walk. The doctor tried to stop him, but the horse went up out of the stream before the doctor had reached the other side. When the horse had gotten up on the bank Būk sīt' sū put his heels against its sides, and it began to trot a little. Before the doctor could put on his moccasins and leggings Būk sīt' sū was quite a long way off, and though the doctor called to him he did not stop and was soon lost to sight in the crowd of Cheyenne horsemen. When the doctor saw that he could not overtake him, he hurried back and told Big Eagle that the arrow was lost, and they all felt badly.

When the Pawnee reached the first Cheyenne camp they were given some of the horses that had been promised them—a few. Some of them mounted these horses and set out to search for Būk sīt' sū through the different Cheyenne camps. These camps were placed at intervals for a long distance up the river. At each camp they reached they asked for Būk sīt' sū and the bundle, and at each were told that he had gone on to the next camp beyond and pushed on to overtake him. They kept doing this until night fell and then gave up the pursuit.

In the meantime the Pawnee had been well received in the first camp and had been taken to the different lodges and fed. The next morning a few horses were given to them, some of them very thin and others so wild that they could not be ridden. Big Eagle asked the Cheyenne chief to get the horses for the sticks that had been given the Pawnee, but the chief said that the Pawnee must find the men that gave the sticks. The Cheyenne said

also "In the next camp is the head chief of all the Cheyenne. He counted coup on Spotted Horse in the fight on the South Loup and struck him on the hip with a lance. You will do well to see him," Big Eagle said, "I should like to see this chief."

When they went to that camp a council was held, and Big Eagle saw that the head chief was the man that he had lanced in the fight when the arrows were taken. At this council he again asked for horses for the sticks that the Pawnee had, but the Cheyenne did nothing and at length the Pawnee became angry and threw away the sticks. Some of the Cheyenne had by this time learned who Big Eagle was, and at this council they asked him if it was true that the head chief had counted coup on him by striking him in the buttocks with a lance.

Then Big Eagle stood up and said, "Brothers, that is not true. I have never been touched there with a spear." He let fall his robe and, standing before them naked, said, "Look at me, look closely at my body and see if you find on it a spear mark. There is none. That man did not spear me but I struck him with your own lance. Look at his body and on him you will find the mark." The Cheyenne saw that this was true and afterward never recognized that chief.

Big Eagle did not like the way the Cheyenne had treated his people. They had run off with one arrow; they would not bring the horses for the sticks that they had given, nor would the chiefs make them do it. He determined that he would not give them the other arrow. So the Pawnee left the Cheyenne camp and started toward the head of the Arkansas river where the Arapaho were camped, and when they reached there they had a friendly talk with the Arapaho. These had some whisky in their possession and told the Pawnee that they ought to drink together like brothers. They did so and all got drunk. While they were drunk Big Eagle began to think how badly the Cheyenne had treated him and that the Arapaho were the friends of the Cheyenne, and all this made him so sad and angry that he beat the head chief of the Arapaho; a Pawnee chief named Big Leader beat another Arapaho chief.

The next day, the Pawnee started again for their own country. They had some horses, but not as many as had been promised them, so Big Eagle sent back four of his braves to take horses from the Cheyenne and when the main body of the Pawnee reached the forks of the Platte these four men overtook them with a great herd of horses. (One or two of these horses were described with great particularity by Pawnee who were in the party and in the year 1890, when I described one of these horses to Gentle Horse, he remembered it perfectly, gave its name and the ornament it had worn on the neck, and told one or two anecdotes about it.)

The previous account of the battle, the capture of the arrows, and the adventures of the Pawnee when visting the Cheyenne come wholly from Pawnee sources. The date of the event was given me by Gentle Horse and was confirmed by Pipe Chief, the Pawnee, in the year 1890. Nothing was said to either man that might suggest to him the date of the occurrence. Each one counted up the time in his own way and each agreed that the event had taken place sixty years before. A number of aged men still alive had been told by their mothers that the arrows were captured by the Pawnee a certain number of years before they were born, and all the testimony seems to show that 1830 was the year of the capture.

I now offer the testimony of the last eye-witness of this fight, Elk River, Mō ē i' yōhē, who died no longer ago than 1909. He had long been considered the oldest man among the Northern Cheyenne and was probably nearly or quite ninety years old. He could not fix for me the date of the capture, but declared that he was a boy big enough to go about alone with his bow and arrows when the event took place. He says that he was a big boy when Gray Thunder was killed, an event which happened in 1838.

The whole Cheyenne tribe, women, children, and all, had set out on an expedition to destroy the Pawnee. As was always the case when the whole tribe moved to war, they had with them the medicine arrows and the sacred hat, *Is' sī wūn*. From this main party scouts had been sent out to look for the Pawnee camp, for the Cheyenne had moved eastward and were really now in the Pawnee country. Several parties of these scouts returned to camp reporting that they could find no signs of the Pawnee camp.

Now a large war party was sent out and traveled for several days without seeing anything, and then sent back to the camp four men to tell the tribe not to follow the trail of the war party, but to make a cut-off across country and join them at a place which was indicated. The war party declared it would keep on until the Pawnee were found. This war party had been camped on Birdwood creek, a stream where there was much timber and many birds of all kinds. It runs into the North Platte river from the north, just above the forks.

The great Cheyenne camp was moving and the people were traveling along carelessly in little groups. All at once a great excitement arose among the people at the head of the line, for it was discovered that four Cheyenne had been killed by their Pawnee foes. These were the four messengers

sent back from the war party. They were found on the little stream where for some time they had fought, using a bank as a breastwork, but they had been driven out of their stronghold, and the signs showed where they had fought on the prairie, and had been killed, and their bodies afterward dragged about. The place where they were killed was afterward called *Tsík hōhk tsūn āhkh'*, Where-the-scouts-were-killed-and-rotted.

When this discovery was made the head men stopped, filled the pipe, and smoked. They waited for the rest of the camp to come up. Two of the men killed were Light (*Wōk kās'*) and Roasting (*Sē' ūh tūn o*, the brother of High Wolf, *Ōn' ōhk ā ē hō ō* 1st, the man afterwards painted by Catlin).

Now, from the main camp, as it moved on, more scouts were sent out to search for the Pawnee camp. When they returned and reported to the chiefs, they pointed to a high blue ridge, far off, with a big point extending down from it toward the Cheyenne camp and said, "At the head of the stream which comes down by that ridge and point is the Pawnee camp. We have watched it and we think that since they killed these four men the Pawnee have sent runners to all the camps, for they are moving in toward that place from all directions. They are already putting up breastworks."

The Cheyenne felt very badly over the killing of their scouts and were impatient to do something to get revenge. All that day and that night they kept traveling toward the Pawnee camp, and late in the night they had come near to it, and there they formed a line.

The next morning those who were watching the Pawnee camp saw a number of Pawnee mounting and preparing to start out to chase buffalo. The Cheyenne, before making an attack, waited, hoping that these persons would get away from camp, but some of the Pawnee rode so near the Cheyenne line that the Cheyenne charged them and the fight began. When the Cheyenne made this charge, the man who was carrying the medicine arrows and who ought to have been ahead of the line was left behind in the rush. The women and children, who had pressed forward, close behind the line of men, had, as was the custom, formed a circle there as if about to camp.

The man who was carrying the medicine arrows was named Bull. Usually, when carried into battle, the medicine arrows were tied together in pairs, somewhat as they were tied to the forked stake when exhibited to the men after they had been renewed. But in the hurry of this attack all four of these arrows were tied together near the point of the lance which Bull was carrying.

When Bull reached the flat ground where the battle was going on, he rode toward a Pawnee whose leg had been broken, and who was sitting out

in front of the Pawnee line. Some Cheyenne, who saw that Bull was riding forward to strike this wounded man called out, "Do not go near him, he has already been killed"—that is, struck, counted coup on—but Bull rode at the Pawnee and thrust at him with his lance. The Pawnee avoided the stroke, but caught the lance and dragged it out of Bull's hand. When he did this the Pawnee charged and the Cheyenne, too, made a fierce charge, hoping to recover the arrows. The Pawnee, however, got there first and one of them seized the arrows and rode away with them. The Cheyenne killed the Pawnee whose leg had been broken, but the medicine arrows were gone.

This fight took place on a wide flat. The Pawnee camp was in plain sight and the circle of the Cheyenne women saw the fight; the Pawnee women could see it also. Both camps witnessed the battle.

A young man of the Cheyenne went back to their camp where were the old men, the women, and the children and told them that the medicine arrows had been captured. Then men, women, and children all cried. Soon after this the fight stopped, and the Cheyenne moved back away from the Pawnee camp. How many were killed on either side was not known. The whole camp was crying all the time as it moved along, mourning over the loss of the medicine arrows more than over the loss of the people who had been killed.

The Cheyenne kept traveling until they had returned to the place from which they had started—their own country. When they made camp a lodge for the medicine arrows was pitched in the usual place, but it was empty: the arrows were gone.

So much for the capture of the arrows as Elk River saw it when a young boy and as he must have heard it talked over a thousand times, for of all subjects that the Cheyenne had to discuss, for a number of years after the event nothing could have been more important.

But it is evident that the Cheyenne could not exist without medicine arrows. Elk River goes on to say:

For the next two or four years many presents were taken into the lodge of the medicine arrows, many offerings made to the spirits (*Ma i yūn'*) asking for help and protection. After these two or four years it was determined to renew the arrows—to make four new ones. The arrow keeper had four assistants, men who were connected with the medicine arrows and who helped him to care for them. One of these was named Gray Hair. When it was determined to make new arrows, Gray Hair was chosen to go

out of the camp to search for sticks with which to make the shafts of these new arrows, stout shoots of the currant bush. He found these shoots and took them back to the arrow lodge which had been cleaned out and the floor covered with white sage. In the lodge were the presents. Now began the manufacture of the four arrows, all the work being done with the same ceremony, care, and deliberation that ordinarily accompanied the renewing of the arrows. The four shoots brought in by Gray Hair, when they had been cut to the right length, were placed on a bed of white sage. The arrow makers worked over them very slowly, carefully, and reverently, scraping them and smoothing them with the smoothing stones until they were brought down to the right size and had become a little dry. Then very slowly and reverently the grooves were marked in them with four motions, making four zigzags. The ordinary arrows have three grooves, but the medicine arrows have four. The glue used in attaching the feathers was made from the bones of a fish. Buffalo blood was used to color the shafts of the arrows. The black coloring was made by mixing the charcoal from coarse burned grass with blood.

To the making of these new arrows four days were devoted, as in the case of the renewing of the real arrows. Then, on the morning after the fourth night, the arrows were put outside as described, and all the males of the camp looked at them. These new arrows were made in the Māssau'm lodge, and the next morning after they were finished they were taken out of the Māssau'm lodge, carried around it, and then over to the medicine arrow lodge, and hung up over the door of that lodge, horizontally, the points of the arrows being directed toward the south.

At night, when the arrows are put into the lodge, they are grasped by the right hand and the door is lifted with the left hand. The points are introduced and the arrows carried south and west to the back of the lodge and tied to the north pole of the tripod, with points directed toward the north. In the morning, when the bundle is to be taken out of the lodge, the arrow keeper goes directly from his bed to the arrows, takes the bundle in his right hand, unties it from the tripod pole, and keeping the points directed as they were, goes on around the lodge to the door, passes the bundle, points first, out of the door, raises the bundle and ties it over the door in the same position. Thus with relation to the lodge, the points of the arrows move always in the direction of the sun.

I understand that it was after the Cheyenne had made the four new arrows that they recovered the single arrow from the Pawnee. Later, according to Elk River, the Burnt-thigh Sioux had a fight with the Pawnee and captured one of the medicine arrows. The

Sioux sent word to the Cheyenne that they purposed to bring home to them one of the medicine arrows, and as they moved toward the Cheyenne some of these visited the Sioux and, returning, reported to the tribe that this arrow was really one of the medicine arrows. When this was returned it was put with the other medicine arrows, making, with the arrow recovered from the Pawnee, six arrows in all.

The Cheyenne account of the recovery of the arrow from the Pawnee differs from the Pawnee story, as shown by the following statement:

A party of Cheyenne, consisting of Old Bark (*Hā āūph' sī vīn ūh'*, Ugly Face) and his wife, White Thunder and his wife, and Doll Man, went to the Pawnee some time after the arrows had been captured.

The five people approached the Pawnee camp secretly and, when they were close to it, walked boldly in among the lodges. Meeting a young Pawnee, they asked him where the chief lived. The Pawnee, seeing that they belonged to another tribe, looked at them in astonishment and then pointed to one of the lodges and said, "Right over there is where the chief lives." They went to the chief's lodge as quickly as they could, entered and sat down. When they were inside they felt safe for the time being. The lodge owner looked at them in surprise, and then told his wife to offer them water and then food. After they had eaten and drunk they could not be killed. They remained there in the lodge. The Pawnee chief sent out messengers and called in all the principal men, and they talked over the situation. The medicine arrows were hanging in this lodge. It was the lodge of Big Spotted Horse (Big Eagle), the chief who had captured the arrows, and therefore this must have been a Skidi village. The visitors explained by signs the purpose of their coming, and at length the Pawnee chief took down the bundle in which the arrows were wrapped and said, "My friends, I will give you only one of these arrows; you can choose which one you want." White Thunder selected one of the arrows and lifted it up, holding the point first directed toward the sky, after which he brought the point down and directed it toward the Pawnee chief. As he did this he was saying in Cheyenne—which the Pawnee did not understand—"My friends, now I am going to make a peace with you, but if, after this, you do anything foolish, if you go out against us on the warpath, or send out war parties to steal horses, we will overtake you and kill everyone of you that we find. Not one shall be left alive. This is a solemn promise which we shall keep and which you also must keep." The Pawnee, understanding nothing of what he was saying, replied, "Lau," signifying assent.

The statement made by White Thunder while he held one of the medicine arrows in his hand had all the solemnity of an oath. The bringing down of the arrow so that its point was directed toward the Pawnee chief was in the Cheyenne view a great insult and certain to bring bad luck to the person at whom the arrow was pointed.

Now the Cheyenne said to the Pawnee in signs, which, of course, they understood, "Now, my friends, I should like to have you come along with us to the camp. No one of the Arapaho or Cheyenne will kill you. I can not say anything about the Sioux, but if anyone does attack you I will be there and will fight by your side." The Pawnee agreed to go and the whole party started on foot. The Pawnee did not think it worth while to take horses, since White Thunder promised them that when they reached the Cheyenne camp they would be given many horses.

They started out and finally came to a great camp of Cheyenne and Arapaho on the Arkansas River. There the Cheyenne gave them many horses, and one Pawnee, named Otter Cap, remained there with the Cheyenne and married a Cheyenne woman. (His son, Big Baby, was alive in 1908. The woman he married was the mother of Old Wolf Face, who also was alive in 1908.)

The arrow recovered directly from the Pawnee was, we are told, one of the buffalo arrows. That which came through the Sioux was one of the man arrows. About this last there are various stories. Some say that this arrow was captured from the Pit' ā hāū ī' rāt; others say that the Pit' ā hāū ī' rāt presented the arrow given them by the Skidi to the Arikara, who traded it either to the Sioux or to the Cheyenne. When returned to the Cheyenne it was in very bad condition, covered with buffalo grease and the feathers almost worn off. "It looked as if it had been given to the children to play with."

The Cheyenne now took two of the new medicine arrows and prepared to offer them as a sacrifice. Many gifts were brought into the arrow lodge, and after more or less ceremony the two arrows were wrapped up with this bundle of presents, and the bundle was taken up on a high butte in the Black Hills and deposited in a crevice of the rock. From time to time thereafter, as the Cheyenne passed through that country, someone would climb up to the place to look at these arrows. The bundle was there for a long time, but at length someone went up there and found that

it had disappeared. There was nothing to show how the arrows had gone or when. The stone points of the new arrows were intended to be exactly like those of the original arrows; as a matter of fact they are somewhat shorter.

IS' SI WUN, THE SACRED HAT

The sacred hat of the Cheyenne (Is' si wūn) is made of the skin of a buffalo cow's head; and a pair of buffalo cow horns shaved down, flattened, and somewhat decorated were, up to a few years ago, still attached to the hat.

Like the arrows, the hat was in the custody of a man, and by the old law the office was hereditary. For the guardian of the hat they preferred a man who was brave, quiet, not talking much, and very little given to wandering about. The man who held the office was never killed or even wounded in war; nor was he ever sick, but lived to full age, dying at last nearly a hundred years old. His lodge had a sacred character, and in the old formal days certain rules were observed in it. The hat was kept in this lodge, usually in a sack of buffalo hide, on which the hair had been left, and trimmed about the border with the tails of buffalo. During the day, in fair weather, the bundle containing the hat was tied to two of the lodge poles, above and outside of the door, and at night it hung on a tripod by the head of the bed occupied by its keeper.

In old times, a person was not permitted to stand up in the hat lodge; he who entered must walk to his place and sit down without delay. No one must speak in a loud voice. Low tones must always be used. A child brought into this lodge for the first time must be prayed over and warned to speak in a low voice. Some proper person must place his hands on the bundle containing the hat, and then rub them down over both sides of the child's body. If by a mischance anyone should throw against the lodge a little stick or stone he must be taken into the lodge and prayed over, and hands that had been placed on the earth should be passed over his body on both sides.

An enemy who entered this lodge might not be harmed. He was safe—as safe as if in his own home.

In this lodge certain things were forbidden. No moisture must fall on the floor. No one might throw water on the floor nor spit

on it, nor blow his nose with his finger there. Any of these things would cause a heavy rain-storm. It was not permitted to blow the fire with the mouth. A long stem with a hole through it was used for this purpose. If this rule were broken and the fire blown with the mouth, a great wind would follow. No one while in this lodge might scratch the head or body with the finger-nails. Each man who entered it to visit or smoke with the people of the hat carried a little pointed stick to use if necessary. One who scratched the body with the finger-nails would be afflicted with the itch where he scratched.

It was not permitted to knock or tap anything, neither to hack a stick nor to chop a bone, unless, before making this noise, the man or woman about to do so struck the pole to the right of the door—if looking out—four times, either with the side of the hand or with a stick. Often the fire poker was used for this purpose. After this had been done, the operation of hacking or chopping might be performed without evil consequences. But, if anything was hacked and the lodge pole was not struck ceremonially, the person doing the chopping would become deaf. The pole struck was one of the two to which during the day the hat was tied. It was always the same pole, one of the three first put up—the three tied together—when the Cheyenne lodge is erected.

When the pipe was lighted in the lodge, it was pointed first at the pole against which the blows were struck—this pole standing for the hat,—then to the sky, and then to the ground.

The hat, *Is' sl wūn*, was shown only on the occasion of a great sickness, or when the medicine arrows were renewed, or when it was taken out to be worn in war. In the first case it was shown in the lodge, which was thrown open, the people entering from the south side, passing around and out at the north. The people passed between the hat and the lodge poles. The hat rested on a bed of white sage, on the middle one of a line of five buffalo chips. The whole floor of the lodge was sprinkled with pure white sand. As the people passed by the hat, they made their prayers and passed their hands over it, and then over their children.

The skin of which the hat is composed is covered with large blue beads. No hair is to be seen. The beads do not look as if they

were sewed on with sinew, but rather as if they were glued on, and it is said that as one looks at this beaded surface it seems to move.

When taken to war, if one or more of the beads stood up above the general surface of the beads, the Cheyenne knew that as many of their people would be killed as there were beads projecting above this surface. After the fight it was always found that all the beads had returned to their places,—that the surface was smooth. If, when a war party was absent, the hat was looked at and some of the beads appeared to be missing, they felt sure that people would be killed, as many as there were beads missing. Afterward, when the war party had returned and they looked at the hat, the beads were all there again, just as if none had been gone.

When the hat was exposed to the general view out of doors—as for example when the arrows were being renewed—it was placed on the middle one of a line of five buffalo chips. This line has been said by old men to have run from east to west. In recent years, the hat has seldom been seen, except now and then when someone wished to present large beads to it. Then, one or a few men might see the bundle unwrapped.

In the old times, when the camp was moving, the wife of the keeper of the hat walked, carrying it on her back, for the hat might neither be carried on a horse nor hauled on a travois. When the camp stopped to rest and smoke, this woman also stopped and put down her load and rested, but she did not sit with the others, not with the crowd, but off to one side. In later times, she who carried the hat sometimes rode.

When the lodge in which the hat was kept had once been pitched, it was not permitted to move it. If it was found necessary to move this lodge, then all the lodges must be taken down and the whole camp must pack up and move, even if the new location were not more than a few hundred yards away.

In the old times, when women saw a man going to the lodge of *Is' si wūn* to make a sacrifice, they used to gather together their little children and follow him thither. After the keeper of the hat had smoked the pipe brought him by the man who wished to make the sacrifice, and so had accepted the offerings for the hat,

the man might stand in front of the lodge and the little children, being brought to him one by one, he would pass the offering four times over the child's right side from foot to shoulder, and four times over its left side from foot to shoulder, and once over the head from in front backward. This would ward off all sickness from the child, would keep him well and strong and bring him good luck. After all of the children had been thus blessed, the offering was handed to the keeper of the hat, who might attach it to the bundle or might take it out and leave it on the hill as a sacrifice.

In the old days, when the ceremonies concerning these sacred objects were rigidly observed, the crier (*E hoo' kwihk'*) was required to go through a certain ceremony in one of these two lodges before he might call out his news. The crier, having been directed by his soldier band to make an announcement, went to one of these lodges and, standing before the custodian of the arrows or of the hat, as the case might be, held out toward him the two hands, edges together and palms up. The medicine man spat—or pretended to do so—at the base of the thumb and of the forefinger of the right hand, and at the base of the forefinger and thumb of the left hand, and at the bend of the hands where they touched each other, just below the base of the little fingers, thus making a quincunx. Then he pretended to spit about the circumference of the two palms, still held together, four times. The crier then went through the ceremonial motions, passing his right hand over his right leg from ankle to thigh, the left hand over his right arm from wrist to shoulder, his right hand over his left arm from wrist to shoulder, the left hand over his left leg from ankle to thigh, and then placing both hands on top of his head, the fingers meeting over the crown and the wrists just over the ears, he drew them down. When these motions had been made he might go out and harangue the camp, but if this were not done a great wind storm would come up. All this is now forgotten.

Misfortune came to the Cheyenne through the loss of the medicine arrows and in like manner trouble is believed to have come to them through lack of respect paid to the sacred hat.

For a long time, Half Bear, *Öhk'ī nā'hkū*, had been the keeper of the hat, and, according to law, the office should have descended

to Coal Bear, Nāh'ko hyō ūs, his son. At the time of Half Bear's death, however, Coal Bear was absent, and when Half Bear felt that he was dying he called to him his close friend, Broken Dish, whom he had been instructing in some of the mysteries of the hat, and said to Broken Dish, "I will not give you *Is' sī wūn* to keep, but I will leave it to you to care for until my son returns." After Half Bear died, the camp moved and traveled toward the Little Big Horn river. Finally, the hat lodge was on the Little Big Horn and people began to gather in, and at last Coal Bear returned to the camp.

Some little time after his return, Coal Bear took four of his best horses, some buffalo robes, and arrows to Broken Dish to pay him for caring for the hat during the time he had had it. But Broken Dish was not ready to give it up. While the people were talking about taking the hat away from Broken Dish for Coal Bear, the wife of Broken Dish took one of the horns from the hat. The gifts were again taken to Broken Dish's lodge and Coal Bear asked for the hat, telling Broken Dish that the hat had not been given to him, but that Broken Dish had been asked by Half Bear to hang up the bundle in his lodge until Coal Bear should come for it. Broken Dish still refused to give it up.

Now the Fox soldiers were called together. They formed in line and, with the chiefs, marched to the lodge of Broken Dish—all of them crying. They took the hat and carried it to Coal Bear and gave it to him. He did not pay Broken Dish for keeping it, nor had Broken Dish paid Half Bear for the privilege of keeping the hat for Coal Bear. Half Bear died in the year 1869, the same winter in which Tall Bull was killed, therefore the hat probably came to Coal Bear in 1873, and he had it for twenty-three years, for he died in 1896. From him the hat went to Wounded Eye. When Coal Bear received the hat, it was not known that a horn was gone from it. After the hat had been taken from Broken Dish, he broke camp and moved away and afterward lived with the Sioux. He never returned to the camp.

The wife of Broken Dish was sister of the wife of Dragging Otter, and, when all of Broken Dish's family died, the horn which had been removed went to the sister of the woman who had taken it. When

this woman died, Dragging Otter retained it and on his death it passed into the hands of Three Fingers, the titular chief of the Southern Cheyenne, and finally was by him taken up north in 1908, and returned to Wounded Eye and presumably restored to the hat. For a long time before the death of Broken Dish's wife she carried this horn sewed inside the front of her dress, so that it was always on her person. It is said that, when the soldiers took the hat from Broken Dish, his wife was angry and she poured water from a cup on the floor of the lodge. Soon thereafter it began to rain and it rained hard all that day.

The loss of the horn was not discovered until the hat had been for some time in Coal Bear's custody. When what had occurred became known, it was deemed a great misfortune, and it was predicted that ill luck would follow the tribe, and especially the family of Broken Dish. Both predictions came true; the whole Broken Dish family soon died, the capture of a part of the Northern Cheyenne, their transfer to the southern country, and their flight to the north followed soon after the sacrilege: there was fighting and sickness and the wounding of people, and at last the out-break of Dull Knife's party from Fort Robinson, where many men, women, and children were butchered. Almost all the Cheyenne troubles are believed to have followed close on the loss of their medicine arrows, and the desecration of the sacred hat.

Coal Bear died in 1896. I knew him well. He was a man of great force and of fine character. He bore himself as became the keeper of *Īs' sĭ wūn*. His burial was accompanied with the proper ceremony. The body was placed on the ground on a hill, and was covered with stones. About this pile of stones, at the four cardinal points, four buffalo skulls were placed on the ground. If this tribute were not paid to the keeper of *Īs' sĭ wūn*, it was believed that the buffalo would go away to the north—where they originally came from—and the range would be deserted. But, if this were done, there would always be plenty of buffalo in the country. When he died Coal Bear was not an old man, probably not more than sixty. His death at this early age is believed to have been due largely to the fact that the tribe no longer revered the hat as formerly.

The sack in which the hat was kept is said to have possessed a

certain sacred power. This sack was called Nīm' hō yōh, which means, "over the smoke," referring to the position that the bundle sometimes occupied, tied to a long pole resting against the back of the lodge, so that the sacred bundle actually hung over the smoke-hole.

Wounded Eye (Ī ī kai' hīst tū hēh'), the present keeper of the hat, before he received it was restless and disposed to move about, and to build a new house in each stopping place. Since he has received the cap, however, he has not built a house but has lived in a lodge, for this mystery may not be taken into a house, nor may it be carried on a wagon.

In the summer of 1906, while Wounded Eye was absent from home, his lodge blew down. No one in the camp knew what should be done under these circumstances, and for several days nothing was done and the hat lay on the ground. At last a certain person—with many prayers, asking for forgiveness if he was doing wrong—ventured to pick up the hat and hang it up. On Wounded Eye's return the man who had done this was prayed over and purified, by being rubbed down with white sage on both sides of the body. Wounded Eye predicted that the fall of the lodge would be followed by a heavy wind storm. Such a storm came about two weeks later, the most severe in the region for some years. It overthrew many large trees and tore to pieces a windmill. All the lodges in Wounded Eye's camp were blown over except his. This, newly put up, did not go down.

In the year 1906, my friend Mr J. J. White, Jr, had an opportunity of inspecting the horn which had been removed from the sacred hat by the wife of Broken Dish, and has kindly given me an account of the occurrence and made from memory a diagram of the horn. It will be remembered that the horn, after the death of the wife of Broken Dish, passed to her sister, the wife of Dragging Otter, and that when his wife died Dragging Otter retained the horn. At the time when it was exposed to view, Mr White, George Bent, Dragging Otter, Three Fingers, and Frank Cook were in the lodge.

"The ceremony began by Dragging Otter's biting off a piece of root—supposed to be sweet root—and spitting it ceremonially on the hands of Three Fingers, who passed them ceremonially over his arms and body,

Fire was then called for and Dragging Otter put a small piece of sweet grass broken from a plait of that substance in front of him. Coals were then handed into the lodge and put in front of Dragging Otter, who sprinkled the sweet grass on the coals.

"The skin bag hung at the back of the lodge in wrappings. A pipe was lighted from the coals and the stem pointed to the bag. The pipe was passed and smoked. It was then passed directly across the lodge—and so across the door—and not back and around the circle. Dragging Otter then blew some of the root again on the hands of Three Fingers, who turned his head to the left.

"Three Fingers now tied up his hair and then began to open the bag, very slowly and reverently untying the string, which is made of dressed buffalo-bull hide. The string was loosened but not untied. Then the horn wrapped in calico, but with the small end protruding from its wrappings, was slowly drawn out of the right hand corner of the bag and set up in front of the bag supported by its wrappings. The curve of the horn pointed to the north. Three Fingers sat at the back of the lodge and a little to the south of the fireplace.

"I was not allowed to have the horn in my hands, but I passed my fingers over it and it felt oily or greasy. On both sides it had been shaved down smooth. The longitudinal grain of the horn was visible, and the surface reminded me of a paper cutter I had once seen said to have been made of rhinoceros horn. The tip was shaved down very thin and at the base the thickness of the horn was from three-eighths to one-half of an inch. The length was between seven and eight inches, and at the widest part it was an inch and a half wide. The general color of the horn is greenish blue, and as it is looked at it seems to change color. The front side is incised toward the point and toward the base by cross parallel lines more or less at right angles to the margin of the horn, as indicated in the diagram (fig. 59), and between these lies a curved line parallel to the outer margin of the horn and about one-quarter of an inch from it. Standing on this curved line are two broadly pyramidal figures, the surface

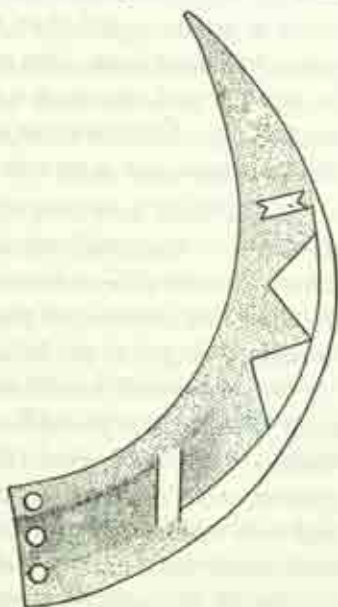


FIG. 59.—Horn attached to sacred hat.

within the pyramidal lines and the curved line being painted red, as are also the incised surfaces running across the horn. At the base of the horn are bored three holes through which no doubt it was originally attached by strings to the cap. On the whole, the horn reminds one strongly of such buffalo horns as were formerly used to ornament the sides of the head pieces of war bonnets. Only faint traces of the old red paint remain.

"After an inspection of the horn, preparation was made to replace it in its sack. When this was done the horn was wrapped in a new piece of calico, the old piece being laid aside to be carried away from the camp and to be left in a hollow in the prairie. In old times, the old wrapping was deposited always in a buffalo wallow.

"Before the horn was replaced Dragging Otter, after chewing some more of the root, spat ceremonially on the hands of Three Fingers, who turned his head to the left. After the horn had been returned to the sack, the wrapping cloths on which the sack had rested were wrapped about it, and the sack was hung up above the lodge entrance."

It is to be noted that the Southern Cheyenne call the sack, which holds the horn, "the cap or hat," in other words, they call it *Is' sf wūn*, and pay to it a reverence like that given to the actual sacred hat. This confirms what is stated in the north that *Nīm' hō yōh* possesses also a certain sacred power.

It has been said that the arrows and the hat were strong war medicines. On certain occasions, when some grave injury had been inflicted on the Cheyenne by another tribe, the whole camp, carrying the medicine arrows and the sacred hat, moved against its enemies, to seek revenge for the injury.

There are traditions that in the distant past there were several such tribal war expeditions, but nothing definite is known about them. In historic times there have been six such expeditions, one against the Crow, one against the Kiowa, two against the Pawnee, and two against the Shoshoni. The formal moves of the arrows were made only on the pledge of some man or men who belonged to one of the soldier societies. If a man determined to pledge himself to move the arrows to war in revenge for an injury to the tribe, he caused it to be cried through the camp that the next year—after one winter—the tribe with the arrows should move against the enemy. The arrows could not be moved without such a warning.

The first historic move of the medicine arrows against enemies

was against the Shoshoni, probably in 1817. They came back this time without meeting the enemy.

The second recorded move of the arrows was against the Crow in 1820 or about that time. The year before this thirty-two Bow-string soldiers had been killed by the Crow on Crow Standing creek and the following year the village moved with the arrows and captured the Crow camp.

The third move was against the Pawnee in the year 1830 when the medicine arrows were lost.

The fourth move—when, of course, only two of the original arrows could have been carried—was against the allied Kiowa, Comanche, and Apache in the year 1838.

The fifth move was against the Shoshoni in 1843, when they killed a single enemy.

The last move was in 1853 when O' hê tăn carried the pipe to allies of the Cheyenne to induce them to move against the Pawnee to seek revenge for the death of Alights-on-the-Cloud and other prominent men. The Cheyenne were defeated with great loss.

It is a good commentary on the absolute lack of organization among Indians in general that in only two cases were these moves of the arrows successful while one expedition was fruitless, and the two against the Pawnee and one against the Kiowa and Comanche were unsuccessful. In these three cases the Cheyenne were not under such discipline as to be willing to await the completion of the ceremonies of the arrows. They either made the charge before the ceremonies were completed or stole off in little bands to make an attack and do some brave thing. This course, according to Cheyenne belief, neutralized and made of no effect the spiritual power of the arrows.

These sacred things were taken to war only when the whole tribe, men, women, and children, moved. They were never carried on small war parties. Because they belonged to and influenced the whole tribe, the whole tribe must accompany them when they were carried to war—no one might be left behind.

When time had come for battle, a certain ceremony was performed, which was part of the ritual of these sacred objects and had for its purpose the confusing and alarming of the enemy. When

they were about to make the charge, the arrow keeper took in his mouth a bit of the root, which is always tied up with the arrows, chewed it fine, and then blew it from his mouth, first toward the four directions and finally toward the enemy. The blowing toward the enemy was believed to make them blind. After he had done this he took the arrows in his hand and danced, pointing them toward the enemy and thrusting them forward in time to the dancing. He stood with the left foot in front, and with this he stamped in time to the song and the motions. Drawn up in line behind the arrow keeper were all the men of the tribe, standing with the left foot forward as he stood, dancing as he danced, and making, with their lances, arrows, hatchets, or whatever weapons they might hold, the same motions that he made with the arrows. At each motion made by the arrow keeper, all the men who stood behind him gave the shout commonly uttered as they charged down on the enemy.

The first motion of the arrows by the arrow keeper is directed toward the (collective) enemy's foot, the second toward his leg from ankle to thigh, the third against his heart, and the fourth against his head. This is the song which the arrow keeper sings.

Ni' vā tsē ūs tsln äts'
There you lie helpless
Tsē hlk' I wōn ān' Is
Easily (to be) annihilated

After the arrow keeper had pointed the arrows four times in the direction of the enemy, he thrust them the fifth time toward the ground.

Meantime, all the women and girls had seated themselves on the ground behind the line of men and remained there turning their heads away or covering them with their robes, for they might not look at the arrows.

After the demonstration made against the enemy with the arrows, the young man who had been chosen to carry them into the fight went to the arrow keeper, who tied the arrows to the young man's lance. He who was to wear the sacred hat, Is' sī wūn, took that up from the ground and put it on his head, securing it there by means of a string which passed under his chin. Then these

two, riding a little ahead of the line of fighting men, rushed toward the enemy. These two men rode as the lodges stand. That is, the man who carried the arrows rode before the right of the line, and he who carried the hat before the left of the line. When these two, who were on specially chosen swift horses, had come close to the enemy, they rode forward and passed each other in front of the line and then passed around behind it. The purpose of this is to blind, confuse and frighten the enemy.

It has been said that in these campaigns, when the arrows and the hat were taken to war, the ceremony which belonged to the arrows must be performed before any attack was made. The failure to comply with this law took from the arrows the protective power they should have possessed. At the great fight between the Cheyenne and Arapaho on one side and the Kiowa, Comanche, and Apache on the other in 1838, this law was disregarded and the Cheyenne believe that this was the cause of their loss of twelve persons, six on the south side and six on the north side of the river, one of the twelve being White Thunder. In the same way, when they strove to avenge Alights-on-the-Cloud in 1853 the Cheyenne lost many of their best men. On this occasion also the young men did not wait for the completion of the ceremony with the medicine arrows, but being impatient to get into battle slipped off and hurried forward passing ahead of the arrows.

The protective power of the arrows, as has been already said, was exercised in a variety of ways. The following example given me by an English-speaking Indian may be repeated.

In 1875, thirty-three Cheyenne young men left the Southern Cheyenne agency at Darlington, I. T., to go north and join the hostile camp. With them went the keeper of the arrows, carrying them on his back. After a short time troops were sent after the Indians to overtake them and bring them back to the agency, but they had determined to fight rather than return. One day, as the Cheyenne were traveling along over the level prairie, a dust was seen behind them and presently those who were following were recognized to be soldiers. The horses of the Indians were in poor condition and they could not run away. The arrow keeper stopped and said, "We are certain to be overtaken. What may we do to

save ourselves?" Presently he told his young men to dismount, sit down on the prairie, cover their heads with their robes or blankets, and look at the ground.

After the young men had all seated themselves on the prairie the arrow keeper put on his robe hair-side out and walked four times around the men and their horses praying. It is not known what he said. The soldiers came on toward them and passed within half a mile or so of the Indians, so close at all events that the sound of their passage could be heard. They paid no regard to the party, for all they saw were some buffalo lying down or feeding on the prairie. The Indians sat still and their horses stood by them, but to all seeming they were a bunch of buffalo. When the sound of the passing soldiers was heard, the Indians looked up and saw them and watched them until they had disappeared in the distance. When they had passed out of sight the Cheyenne mounted and went on their way, but, it is believed, while the soldiers were passing the arrow man had transformed the Indians into buffalo. This happened at about three o'clock in the afternoon. Ed. Guerrier was with the troops as interpreter.

The man who told me this was one of the fleeing Cheyenne. He said in concluding his story "I am educated and I am a Christian, but I must believe what I myself saw."

Such are some of the ceremonials and beliefs connected with the medicine arrows and the sacred hat of the Cheyenne. We may not doubt that there were a multitude of other ceremonials and much ritual, of which a large part has now been forgotten and will never be collected. The young men of the present day know very little about the ancient ceremonies, and excepting in rare instances the old men are reluctant to talk of these things, partly because the subject stirs up painful regrets and partly from the inherited feeling that these are matters which must not be talked of under any circumstances to anyone outside of the tribe. Even among the old men there are many who have no knowledge about these sacred things, whether because they have never been brought in contact with them or because they have forgotten what they once knew. There is as great a difference among Indians in the matter of memory as there is among white men.

Taken in connection with the two articles already cited from the *Journal of American Folk-Lore*, I believe that this account gives a fairly just idea of the medicine arrows and the sacred hat of the Cheyenne.

NEW YORK CITY.

THE BUTTERFLY IN HOPI MYTH AND RITUAL

By J. WALTER FEWKES

INTRODUCTION

THE butterfly, moth, and dragonfly, are among the most prominent insects figured on prehistoric Hopi pottery; they are frequently mentioned in the mythology of these people, and their symbols occur constantly on secular and ceremonial paraphernalia. There is a prominent clan in one of the Hopi pueblos called the Butterfly clan which preserves legends of its past history and migrations.

It has been shown in an earlier number of the *American Anthropologist* that there are important modern survivals of a butterfly cult in a nine days' dramatic ceremony called the Owaküiti, occurring biennially at Oraibe¹ and occasionally performed at Sichomovi. From the abundance and variety of symbols of this insect depicted on prehistoric objects it would seem that formerly the butterfly played an even greater role than at present in the Hopi ritual.

It is instructive to notice that there has been a radical change in the symbolism of this as well as other life forms, if we compare prehistoric and modern representation of this animal. This change is radical and not one we can ascribe to evolution; the modern symbol is not more realistic than the ancient, nor is it a development from it. Perhaps no figures of animals are better than those of the butterfly to show this change of form, and a comparison of no other series sheds a clearer light on the mythologic and ritualistic life of the Hopi. It has occurred to me that a brief account of the butterfly and its symbolism among the Hopi might aid the student of myths and rituals of other pueblos, especially those of the Keres and Tewa linguistic stocks from which the Hopi sprang. Although

¹ The Oraibe, variant of this ceremony, described by the Rev. H. R. Voth in the publications of the Field Museum of Natural History as the Oakolti, is under the direction of other clans, the Tuwa or Sand predominating.

the following account must necessarily be brief this does not imply that the subject is limited in scope, for the butterfly cult is not only one of the most complicated but also one of the widest spread in the Southwest.

A clear knowledge of paraphernalia and cult objects used in modern pueblo rites is a great aid to archeological work in pueblo ruins, and a familiarity with legendary history is especially helpful in identifying village sites or determining the clans that once inhabited them. Knowing the objects that survive in the cult rites of any clan a student can recognize them when found in prehistoric ruins and thus interpret their meaning. To indicate the significance of the above statement it is my intention to illustrate this connection of prehistoric and historic ideas and their expression, by means of facts drawn from one of the smallest of the Hopi clans, the range of whose migration, since it came to Hopi, is comparatively well known.

MIGRATIONS OF THE BUTTERFLY CLAN

The migration history of the Butterfly clan of the Hopi is clearly connected with that of the Badger people.¹ Neither of these clans now inhabits Walpi, but next to the Asa the combined Butterfly-Badger clan is the most prominent in a small pueblo called Sichomovi situated on the east mesa of the Hopi midway between Hano and Walpi. This compound clan is reported to have been one of the latest arrivals in the Hopi country and according to legends the original home of at least the Butterfly section of it was the eastern pueblo region.

So far as we can now reconstruct Hopi clan history the most ancient pueblos² near the east mesas were all settled, in prehistoric times, by colonists belonging to the Tewa and Keres linguistic stocks, and the original settlers came from the east; later the villages they founded were enlarged by increments from north and south, but there is good reason to believe that even the Snake clans from the north drifted into northern Arizona from the east following down the

¹ The Badger people are said to have introduced the masked Katsina dances among the Hopi and the shrine in which prayer-sticks are deposited at the dance called the Farewell Katsina is called the Badger *sipapá*.

² Walpi was founded by Bear clans; Sikyatki by Kokop; while Awatobi and the villages on Antelope mesa are ascribed to Keres and Tewa colonists.

San Juan river valley from more ancient homes in southwestern Colorado and New Mexico. The modern pueblo culture of northern Arizona is believed to have been derived from the San Juan and Rio Grande regions; although all its components did not come from these localities. The builders of the great compounds in the Gila-Salt valley and its tributaries, in the growth of the Hopi pueblos, contributed a distinct type akin to that of the northern states of Mexico.

The first traces of the presence of the Butterfly clans at Hopi, according to legends, goes back to the ancient settlement, Awatobi, discovered in 1540 by Tobar and flourishing in 1583 when visited by Oñate. While we have no historical statement that members of the Butterfly clan lived in this populous pueblo when first visited by Spaniards it is distinctly stated, in legends, that they were there in 1700 when the pueblo was destroyed by the other Hopi villages. Legends rather vaguely intimate that the Butterfly clans were Tewan in kinship, in corroboration of which it may be said that the name *buli* (*poli*), "butterfly," is a Tewan word and presumably of eastern or Rio Grande origin.

Little is known in a detailed way of the migrations of the Butterfly people before their advent in the Hopi country, and their settlement at Awatobi. From their kinship with the Badgers we may suppose that they had a similar origin.

The Badger (Honani) people are intimately associated with the masked dances called Katsinas and are reported to have come from the Rio Grande region at a comparatively late epoch in Hopi history. We know from legendary accounts that this clan formed a part of the population of Awatobi, at the time of the massacre at that pueblo, and that it had a sacred shrine at Awatobi in the plaza near the old mission east of the ancient town. This shrine, now in the National Museum, was excavated in 1892 and was found to contain prayer sticks which the Hopi workmen identified as belonging to the Katsina cult. The walls of the shrine, like those of the Badger or Katsina shrine at Walpi, were made of upright slabs of stone on which were depicted rain-cloud symbols the colors of which correspond to those of the four cardinal points.

It is perhaps premature to speculate on the kinship of any of the

early colonists that founded Awatobi, but from all that can be gathered I am inclined to the belief that the original settlers were colonists from the eastern region who had migrated hither via Zuñi, Acoma, and other eastern pueblos. It would appear that some of the pueblos near Awatobi on the Antelope mesa were Tewan in origin while others were probably Keresan, as the name, *Kawaika*, indicates. The pottery of Awatobi, *Kawaika*, and some other ruins on the Antelope mesa is closely allied in symbolism to that of old Sikyatki and Shumopavi. The existence of Butterfly and Badger clans in Awatobi at the time of its destruction (1700) points to a Tewan origin which strengthens the belief above stated that Awatobi, like Sikyatki and Walpi, was founded by eastern clans which later drew to their number other clans of eastern and southern origin. When Awatobi was destroyed by the other Hopi pueblos, the legend declares that the men were all in the kivas and were killed by the hostiles; but the women and children were taken to Maski Skeleton House, now indicated by a mound in the plain, and were divided among the participants in the massacre. All those women who refused to go with the captors were killed, but the others, of diverse clans, were distributed among the villages.¹

After the destruction of Awatobi the women of the Butterfly clan who survived the massacre were apportioned among the allied pueblos, the majority of them being taken to Oraibe or its neighborhood.² They are said to be the ancestors of the present Butterfly clan. After remaining at Oraibe some time they left this pueblo, crossed the intervening valleys, and joined a new pueblo founded shortly before, called Sichomovi. In this new pueblo there were people of Zuñi descent, for which reason it was early called the Zuñi pueblo in "Hopi-land."

¹As the Hopi have the matriachal clan system these women may be said to have thus introduced their clans into the pueblos of their captors.

²I have often asked the Hopi whether the people at Sikyatki and Awatobi spoke what we now call the Hopi language. One of my best informants said the Awatobi speech was Hopi but with dialectic variations, and it is instructive that a variant of the name Awatobi dates back to 1583. There is a song known to some of the old men of Walpi which is said to have come from Awatobi in which many words are incomprehensible, a fact which may mean much or little as Hopi songs have many archaic words and many Keres words. The names of Tapolo and Sakeva, two chiefs of Awatobi, do not now occur on the East mesa.

The Asa clan that founded Sichomovi is said to be the same as the Zuñi Aiwahokwi but the Hopi claim that its original home was in a Rio Grande pueblo and that it was of Tewa extraction. As the Butterfly and Badger were both from the Rio Grande there was a good reason for the union of the Asa, Badger, and Butterfly clans in the pueblo founded by the Asa. From the sociological point of view we are led to believe that Sichomovi was peopled by Tewa clans and founded by colonists from Zuñi.

The above legends are supported by evidences drawn from ceremonial dances. In January the men of Sichomovi take part in a dramatic rite that celebrates the return of the Katcinas, the personators in which drama represent Zuñi Katcinas and bear Zuñi names: it is universally stated that this is an introduced Zuñi dance, and there are other dances in this pueblo ascribed to the same source. Sichomovi is the only Hopi pueblo that celebrates the Zuñi Shalako, which, although very much worn down and with many episodes omitted, being performed in July instead of in the winter, is still recognizable. These and other evidences might be mentioned in support of the belief that Sichomovi is a pueblo of Zuñi clans now speaking Hopi. We shall presently see that the Butterfly clans have a dance which affords still further evidence of foreign kinship.

The Hopi all assert that the Asa spoke Tewa before they lost their language and that before they migrated to Zuñi they lived in the eastern pueblo region. Old legends mention ruins in which the Asa claim to have lived during their emigration and these ruins are situated in the present Tewa territory. The Butterfly legends also declare their ancestors were Tewa when they went to Zuñi, and that they formerly lived in New Mexico, having later lost the Tewa language and adopted the Hopi speech. The Asa, as elsewhere shown, at one time in their Hopi life went to the Canyon de Chelly in New Mexico where, having intermarried with Navaho, they sojourned a considerable time, at the expiration of which they returned to the East mesa. Before their departure for Canyon de Chelly they inhabited the row of houses north of the Snake kiva near the "Ladder Trail," but after their return they founded Sichomovi where the majority of their descendants still live. There are

other legends of the Butterfly and Honani peoples of similar import, to consider which would take me too far afield at this time.

PREHISTORIC ART ESSENTIALLY SYMBOLIC, NOT REALISTIC

An examination of prehistoric pueblo pottery from Arizona and New Mexico shows that while there are certain symbols common to all ruins there are others peculiar to individual pueblos. The symbols characteristic of each ruin point to the kinship of the former inhabitants of these pueblos and by comparative methods can be made to bear on the study of the prehistoric migrations of clans. It is evident, for instance, that prehistoric symbols form in a way a primitive alphabet and the appearance of the same in widely separated ruins indicates when rightly studied a former contact of the people.

It is necessary as a preliminary to generalizations regarding symbols to differentiate such as are universal in the pueblo area from those which are more local or found only sporadically outside of certain restricted areas. We must likewise have material from each ruin abundant enough to determine the symbols which predominate in that region but are rare or wanting elsewhere. What are the characteristic symbols of individual clans of prehistoric Hopi, and how do they differ from those of ancient Zuñi, considering each of these regions as a culture area? What symbols do the old Tewa in the Rio Grande valley share with the ancient Hopi villages now in ruins, founded by Tewa colonists from them? An adequate answer to these questions involves an intimate knowledge of the symbolism found in characteristic ruins, and comparative studies of these productions with other extra-territorial paleography. It is desirable for comparative purposes to accumulate a considerable body of picture-writing from many regions of the Southwest before any broad generalization can be attempted. It is also necessary in this research to discover whether any characteristic symbols have been originated by or are associated with certain clans, and what knowledge of their significance can be derived from studies of the survivors of those clans still living in modern pueblos.

At the very beginning of studies along the line above suggested it seemed to me evident that the modern symbolism of Walpi or

Zuñi and other pueblos was, like the population, composite, and distinctly different from the ancient. Socially and linguistically most pueblos are conglomerate, derived from many clans originating in distinct localities. It has long been recognized that both modern Hopi and modern Zuñi symbolism are very different from the symbolism of prehistoric ruins near the inhabited pueblos. In other words the symbolism changed¹ after these neighboring ruins in which contributory clans once lived were deserted.

This change is regarded as due not so much to evolution as to the incorporation of new elements by incoming clans and the adoption of new symbols from foreigners. It cannot be strictly true that there is an evolution of modern Hopi from ancient Hopi symbolism, but in the case of the Hopi an entirely new symbolism has been introduced from the Rio Grande. This introduced art, which is Tewan, has driven out of existence the production of ancient Hopi symbolic pottery decoration. The same change has taken place in Zuñi symbolism, as is evident when we compare figures on ancient and modern Zuñi pottery; the latter is closer to that from the Rio Grande than the former which is, like that farther down the Little Colorado, derived from southern Arizona.

When a prehistoric pueblo artist drew a figure of an animal on pottery he gave primary attention to the predominating power which he attached to that animal. He thus endeavored to give an impression of action or pictorially indicate what the animal could do. Representation of action is thus one of the main characteristics of prehistoric Hopi art. The power of flight² of the bird made a strong impression on the ancient Hopi and the wing and feather were adopted as the best possible symbols of flight. Not only every bird but likewise a flying snake or dragon must in this conception have some representation of wings or feathers; even in insects it is impossible to separate this idea of flight symbolized by the feather from the animal depicted.

¹ To show the change in Zuñi symbols of the butterfly compare a picture of this insect figured in my article in the *Putnam Anniversary Volume* and numerous representations on modern Zuñi pottery. The well known pictures of butterflies embroidered on modern Hopi wedding-blankets are closer to modern Zuñi pictures of this insect than to those of ancient Hopi or ancient Zuñi.

² This power was regarded as magical since it was incomprehensible.

Although the Hopi have distinctive names for different kinds of birds and butterflies, figures of the former are distinguished from the latter generally by the possession of feathers. All animals that fly have exerted a marked influence on the religious life of the Hopi and even serpents are endowed with feathers. But conventionalized figures of both birds and butterflies are so made that it is often difficult to decide whether a figure represents a bird or insect, or to distinguish between the form and a moth. The word for one is often-used for another, anatomical distinction not being recognized to any extent. Thus the objects on pedestals in front of the Owaküiti altar are called birds or butterflies; both are flying beings and, while clans have no distinct names, as individuals each has a distinct name. It is the feather of the bird, its beak and claws, rather than the variation in the bodies that has the distinctive ceremonial importance.

The modern Hopi have two names for the moth and butterfly, of which *hokona* is believed to be the older as it appears in the name of the ancient stone slab that the Antelope priests place on the Antelope altar in the Snake dance. The other name, *buli* or *poli*, is Tewan in origin and is that commonly used. The symbol of the butterfly, as shown in modern figures, is not very different from that found in ancient Zuñi ware. We seldom find the figure of a butterfly on the modern Tewa ware made at Hano which has practically taken the place of the ancient.

Hopi butterfly and bird pictures, as has been pointed out in reports on the excavations at Sikyatki and in ruins on the Little Colorado, excel all other animal motives on pottery decorations. Previously to my discoveries at these places the existence of the feather motive on prehistoric pueblo ware had not been recognized, and the presence of birds was known only obscurely. It was then recognized that there is a marked tendency to similarities in symbolism representing flying animals as birds and insects. To depict a flying snake with feathers, although far from realistic, would seem within the range of art, and a figure of a butterfly with bird characters was not regarded as a violation of primitive art although it would shock the realistic ideas of a naturalist. Highly conventionalized bird and butterfly symbols are thus often indistinguish-

able and grade into each other so closely that they are extremely difficult to separate. Both of these animals are sometimes represented by triangles, a fact which reveals the danger of relying too strictly on the identification of geometrical figures as animal forms. Although the highly conventionalized bird and butterfly symbols are difficult to distinguish it is self evident that figures with four wings are butterflies and not birds. But both butterfly and dragonfly symbols when highly conventionalized resemble each other, both having four wings. The attempt is made simply to represent a flying animal and a closer identification is difficult, if not impossible.

As the first object of the Hopi in drawing a flying animal was to introduce that part particularly associated with flight as a symbol, so with his pictures of the power of other animals, where he likewise chose symbols of action. Thus the antelope constantly has the heart depicted in symbols for it has "good wind," and proper heart action is associated in the primitive mind with endurance in running. The rattlesnake moves in a zigzag course and strikes to kill, both of which powers appear in the crudest figures of these animals.

It seems a far cry from legends to pictographs but in our Southwest they are intimately associated; here as elsewhere pictographs may serve as valuable verifications of migration legends, serving definitely to identify sites of former habitations and thus to prove the truth of traditions. It can be shown that certain pictures on rocks and pottery open new chapters in our knowledge of ancient rites and ceremonies and their derivation.

There are many localities in the Southwest where we find pictographs of butterflies, moths, and dragonflies. The great collection of Hopi pictographs on cliffs at Willow Spring, not far from Tuba, Arizona, may be mentioned as an indication that members of Hopi clans, whose totems are there recorded, once tarried there, possibly in their clan migrations, or in their visits to the Supai or the salt deposits¹ of the Colorado.

¹In a subsequent article I will mention the places visited by the Hopi in their visits to the "Canyon" for salt, and the ceremonies when they procured this substance.

MODERN HOPI FIGURE OF A BUTTERFLY

The accompanying figure (fig. 60) representing one of many pictures of butterflies made by modern Hopi, was copied from the back of a helmet used at Sichomovi in 1891 in personations of the Duck Katsina; its presence there being thus explained by the painter: "The butterfly is just as fond of the water as the duck." Several characteristic structures will be noted in this picture, one of the

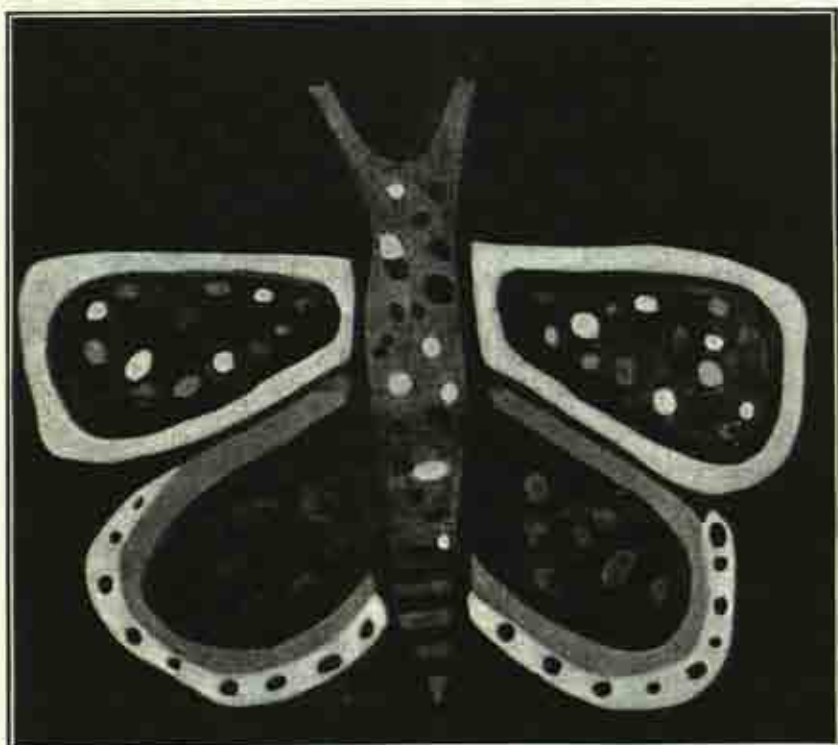


FIG. 60.—Representation of a butterfly copied from the back of a helmet used at Sichomovi in personations of the Duck Katsina.

most constant of which is the two appendages to the head, each terminated by a red circle.

The body of the original picture from which this figure was made is green in color, the end of the abdomen being pointed and crossed by black lines. This body is spotted with white, black, and red

spots, the whole outlined with black. There are four wings spread like those of a moth in repose. The upper wings are white with middle colored red, and dotted with white, green, black, and yellow spots. The two posterior wings have yellow borders, red in the middle dotted with green spots. Along the lower border of the posterior wings are white margins with black dots. The interior of the anterior and posterior wings has a black margin. As this complicated picture of a butterfly or moth was from a helmet mask in a Katcina dance it may be regarded as embodying the modern conception of butterfly symbolism. Many other modern pictures of butterflies are extant but this is a good one for a comparative study of the ancient representations as found in Sikyatki or the ruins on the Little Colorado.

Let us compare this figure with the symbol of a butterfly from a ruin near Awatobi. Some time before his death the late Mr T. V. Keam collected from near this ruin several stone slabs (fig. 61, *a*, *b*, *c*, *d*, *e*) which the Hopi identified as connected with one of the ancient ceremonies of that pueblo.¹ These slabs were really the boundary walls of the shrine of a basket dance called the Owaküiti formerly celebrated at that place.

On one side were painted in color, still visible, pictures of rain clouds, and on the opposite, insects identified by the Hopi as butterflies, although in some cases the figures are closer to dragonflies. In figure 61, *f*, which represents one of these, probably the best, we see the four outstretched wings of triangular shape, one end of the body being pointed and that representing the head being rounded. On one of the smallest of these stone slabs there are figures (fig. 61, *g*) resembling dragonflies, two lobes of the head being shown in the figures.

The beautiful Sikyatki-Awatobi pottery is rich in pictures of moths and butterflies, the most remarkable instance of which is the so-called butterfly vase² from the former ruin. The number, arrangement, and other features of these butterflies lead me to

¹ Later these were sold by Mr. Keam to the Berlin Museum für Völkerkunde. The accompanying rough sketches (fig. 61) are copied from my notebook and were made a short time after they were found.

² See 17th Ann. Rep. Bureau of American Ethnology, part II.

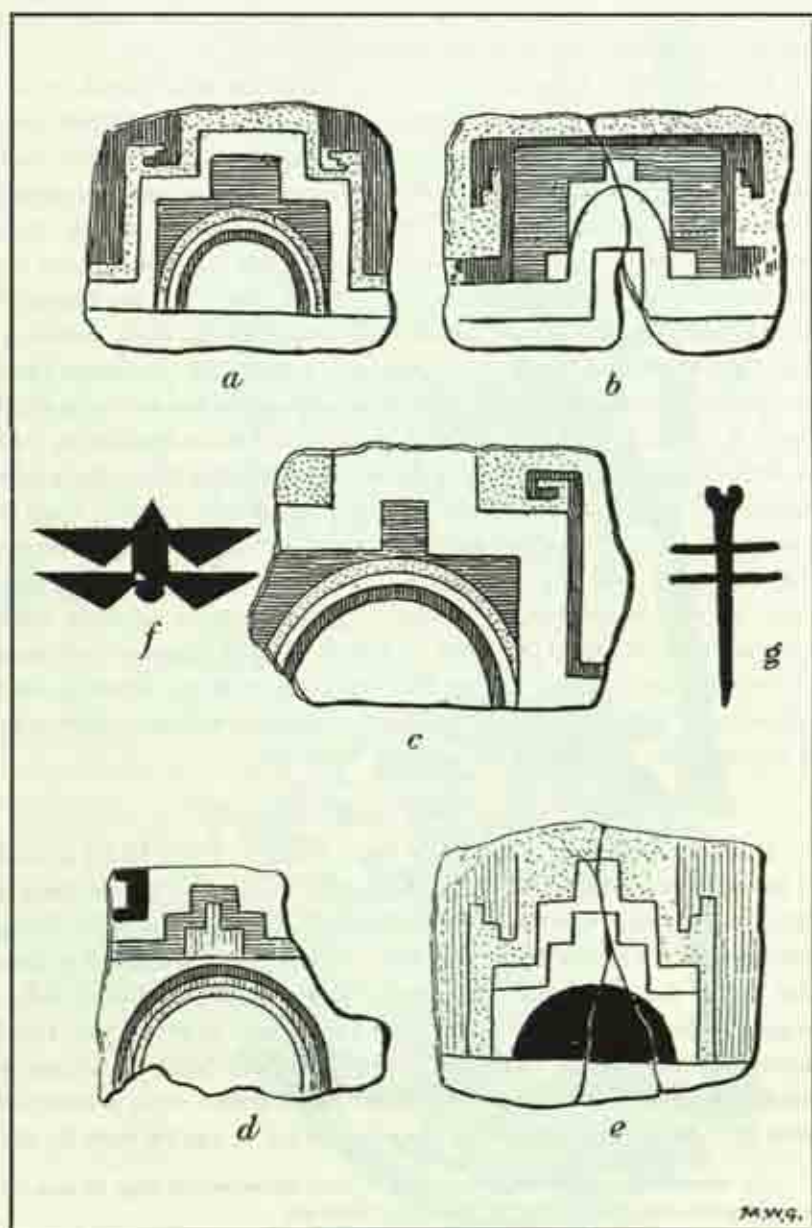


FIG. 61.—Stone slabs with decorations from Awatobi butterfly shrine. *a*, *b*, *c*, *d*, *e*. The slabs; *f*, Representation of a butterfly; *g*, Figure resembling a dragonfly.

associate it with religious conceptions concerning this animal that figures conspicuously in Hopi mythology.

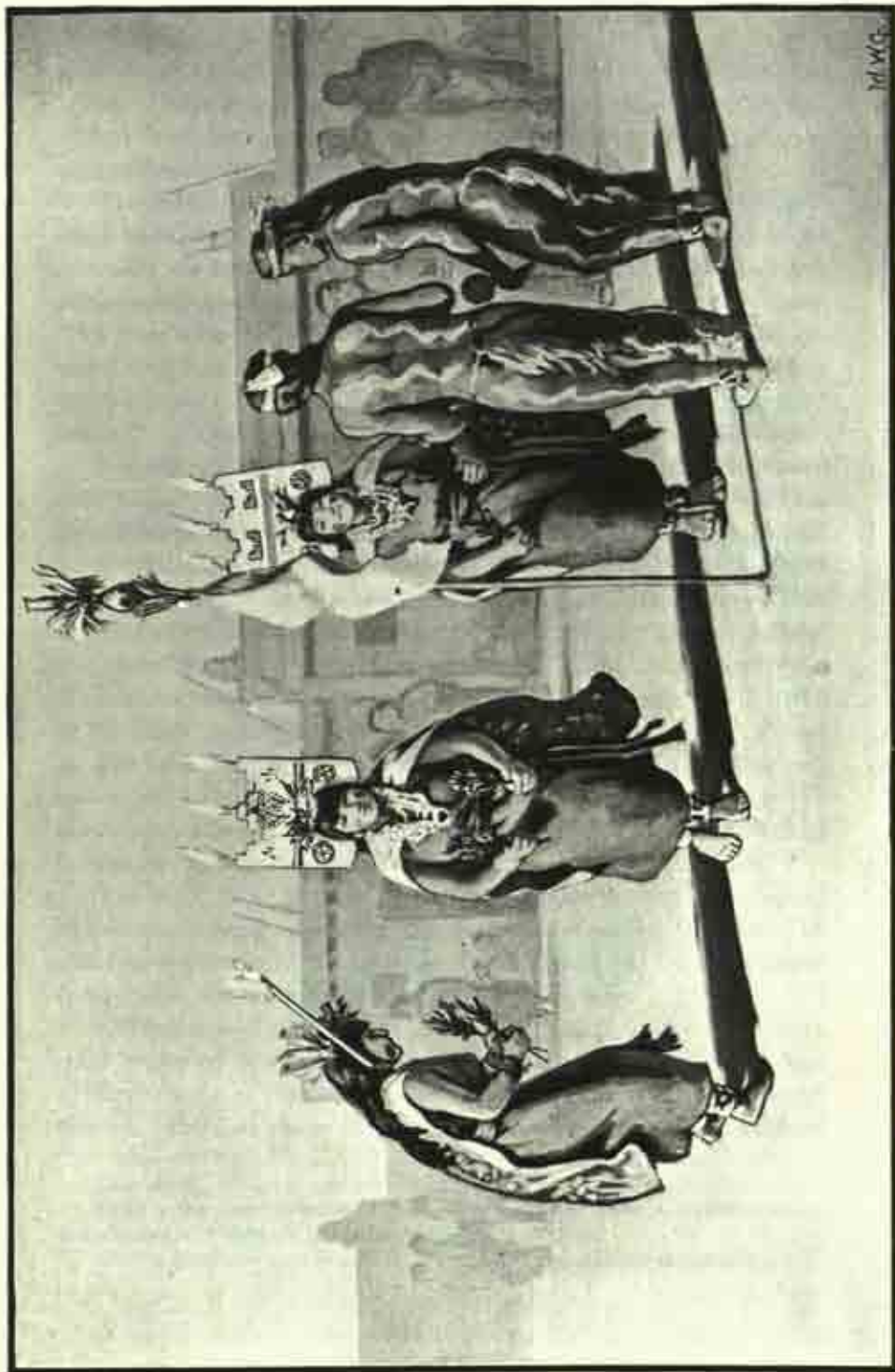
We often find lines on bowls from Sikyatki terminated in circular figures or dots from which extend radiated or parallel lines which have sometimes been interpreted as feathers. These dots are sometimes double and often there are one or more perpendicular lines crossed at right angles to the line on which they lie. These dots, parallel or radial lines, and cross lines, can be interpreted by a design on a fragment of pottery from Sikyatki where occurs a decoration which furnishes a key to their meaning. The figure on this fragment represents a dot and two cross lines at right angles to a line to the end of which is attached an undoubted feather. The dot represents the knot by which a feather is tied to the string and the two cross lines indicate two knots, the whole decoration representing a feather offering called by the Hopi a *nakwakoci*.¹ It is evident that the parallel and radiate lines represent feathers and the enlargement at the end of the string the knot² by which the feather is tied. The figures of feathers with notched ornaments at the end of a club-shaped body so common at Sikyatki are limited to true Hopi ruins or to those showing that influence. They are mainly confined to pottery although occurring in pictography as well as on ancient ceramics.

THE BUTTERFLY DANCE

The so called Butterfly-dance or Bulitikibi of the Hopi is said to have been introduced by the Butterfly clans. So far as known this dance has not been described although repeatedly seen by those visiting several of the Hopi pueblos. It is so closely related to certain tablet dances of the Rio Grande Tewa that it is almost indistinguishable from them. The most important part of the Hopi butterfly dance is the public performance, there being no altars or fetishes and so far as known no important secret rites connected with it. As it is performed in the open plaza it can be seen by all,

¹An offering constantly made and used in Hopi ceremonies as may be seen by consulting detailed accounts of the great Hopi festivals.

²We sometimes, as in the specimen of a food bowl from Sikyatki, find a representation of this dot, string, and attached feather at the corners of a blanket worn by a human figure.



DANCERS IN THE BUTTERFLY OR HARVEST DANCE AT SICHOMONI

and to it the Hopi welcome all spectators. Like the Buffalo dance, which I have described elsewhere in the *American Anthropologist*,¹ it may be called an abbreviated dramatic performance, the secret ceremonies having been dropped and lost.

The dance (pl. XLVIII) is performed by men and women appropriately apparelled, the latter wearing on their heads tablets the edges of which are cut in terraces to symbolize the rain clouds, their flat surfaces being adorned with butterfly, sunflower, and other symbols. There are other tablet dances at Hopi, the best known of which are the Humis Katsina (James "Cachina"), and the Palahikomana, but the Butterfly tablet-dance is more like the "tablita"² at San Juan and other Rio Grande Tewa pueblos, than either of those mentioned.

I need not enter into an elaborate description of this dance as it is essentially the same as that performed in Rio Grande pueblos described by others. Not only the dance but also the songs and paraphernalia are almost identical.³ In some of the Balintikibi dances the participants have a banner, not shown in the figure, which is made of cloth on which is painted the head and bust of a Hopi girl, an object given to them by Major Williams formerly the Navaho agent. The presence of clowns in the one recall those in the other, although their performances vary from year to year as has been frequently described. This banner is of course not connected in any way with the ancient ceremony. Among the personages who appear in the Butterfly dance at Hopi the so-called clowns are among the most instructive in their clan relations.

The Hopi have at least three types of clowns, those appearing in this dance being distinctly like those of the eastern pueblos. In order to comprehend the bearing of this conclusion let us consider these Hopi clowns and their possible provenance.

Evidences that the Hopi ritual is a ceremonial mosaic of different cults imported from different regions is afforded by the existence of three kinds of clowns who amuse the spectators in the sacred dances. Each of these three types is associated with a distinct

¹ *Am. Anth.*, vol. 4, pp. 506-509.

² This is the dance called the "Hopi Harvest Dance," colored figures of which as performed at Oraibe are printed on postal cards.

³ This is commonly used as a Harvest Dance and is sometimes so called.

group of clans which has been added to the Hopi population from time to time.

The clowns of the Tewa pueblo, Hano, are peculiar to that village. They are distinguished by alternate black and white bands girdling body and limbs and they wear on their heads a cap with two horn-like projections made of skin to which are attached small bunches of corn husks. Although regarded as priests they have no altar or fetishes, their religious function appearing only in the prayer-sticks that they place in certain shrines. These clowns closely resemble those of the Tewa villages on the Rio Grande.

The Tewa clowns or Paiakyamû may take part in any Katsina dance but they are confined to the pueblos of the east mesa, especially Hano, where Tewan clans predominate.

Another class of Hopi clowns also of exotic derivation are the Koyimisi¹ which, as the name implies, were derived from Zuñi. Although they may perform in Walpi, their home is in Sichomovi where those clans lived that came from Zuñi.

The order of clowns called the Koyimisi do not paint bands of pigment on their limbs and bodies nor do they, like the Hano clowns, have horns on their heads, but they smear their bodies with earth and wear closely fitted gunnysacks on their heads.

These head coverings have knoblike wens which impart a most ludicrous appearance to the wearers. Their mouths and eyes are made hideous with sausage-like enlargements and they sometimes have similar pendants from above the ears. Their function is not unlike that of the Hano clowns; they amuse spectators during the sacred or Katsina dances. This is an old priesthood, but it has lost that sacred character so marked in the pueblos from which it was derived, and has no altar or fetishes.

The third order of Hopi clowns is limited at the east mesa to Walpi, where it is one of the most important priesthoods, as may be seen by consulting my account of the "New Fire Ceremony," in a previous number of the *Anthropologist*.² This is called the Tatcüküti or Tataukyamû and the members wear no horns nor helmets on their heads but paint phallic emblems on their backs, breasts, and

¹ *Koyeamishi*.

² *Am. Anth.*, vol. 2, N. S., pp. 80-138.

sometimes on their thighs. They decorate their faces with red bands extending from mouth and eyes to the back of the head, and wear cotton-tail rabbit tails in their ears, and necklaces of the same around their necks, symbolic of the Rabbit clan that introduced them into Awatobi from the region of the Little Colorado ruins.

This order of clowns has an altar and *tiponi* or palladium, and many traditional songs, and prayers; their acts indicate a form of phallicism in which the obscene is prominent.

The phallic character of their dance dates back to their life in Awatobi from which ruin was obtained a food bowl now in Berlin, which has the dance of the Tataukyamû painted upon it. I possess a photograph of this bowl which represents a number of these priests, wholly naked, dancing in a circle near which is a figure of a woman and another priest. This figure, so far as known, is the earliest known representation of the Tataukyamû dance and the only surviving picture of an Awatobi dance. The same dance is still performed every November at Walpi, but in a modified form, although phallic emblems and elements are conspicuous in the modern survivals.

The first two orders of clowns introduce in the public dances certain droll plays, often obscene, that they invent to amuse the spectators. These drolleries vary with the inventive power of those men who are chosen to take the parts of clowns, and are not ancient. The following episode occurred in one of the dances and was an impromptu exhibition of the Hopi clowns which may have a historical interest, and certainly illustrates the sense of humor of the Hopi Indians. In 1891 the author was engaged in pioneer work with the phonograph in the preservation of Hopi melodies.¹ The use of this instrument naturally made a strong impression on the Hopi who were at first much astonished but later this feeling gave way to amusement when a graphophone was introduced by the late T. V. Keam.

The value of this instrument for amusement did not escape the clowns, who in one of their performances improvised a phonograph out of an old Sibley stove funnel. Their representation of it is

¹ These melodies were later published in Vol. V of the *Journal of American Ethnology and Archeology*.

shown in a photograph made by Major Williams in 1892 (fig. 62). The bearded person represents the author while the man at the right is one of the clowns. Another clown, hidden under a blanket, responded in a quaking voice to a second performer who from time to time spoke or sang into the funnel, the record being taken down by



FIG. 62.—Burlesque by Hopi clowns of the writer's work with the phonograph.

the bearded Hopi dressed as a white man. The fun thus produced was highly appreciated by the people on the house tops.

CONCLUSION

The outcome of the above studies of the Butterfly cult is that it was introduced by certain Tewan clans which have exerted an influence on the Hopi ritual. We know that many mythological conceptions of ancient date among the Indians can be traced to the Rio Grande region. Take for instance the symbolism of the pottery found in ruins like Sikyatki, Awatobi, or Old Shuomopavi. Here we find figures representing Keres and Tewa mythological

beings. For instance the symbolic conception of the winged-serpent,¹ as it appears in the winter solstice ceremony at Hano, is thoroughly Tewa and quite different from that at Hopi. Images of that being made of clay on the Tewa Hano altar are different from the effigies used at Walpi. The Hano image has a row of feathers along the back; its eyes, necklace, and teeth, being made of kernels of corn. This horned effigy differs considerably in symbolism from the horned plumed serpent of the southern Hopi clans called Balulukon which is dominant at Walpi. If, however, we compare the Hano clay idol of the feathered horned serpent with the picture on a prehistoric food bowl found at Sikyatki we discover the same row of feathers along the back in both instances. In other words the representation of the Tewa plumed serpent is closer to that of Sikyatki than to that of Walpi, for the latter came from southern Arizona and northern Chihuahua while the Hano was derived directly from the eastern pueblos. This does not necessarily mean that the Hano people came from the same pueblo as the Kokop, but from the same culture area. The Sikyatki people were from Jemez, the Hano from Tcewadi, a ruin on the Rio Grande the site of which is known.

It is interesting in this connection to note that a head similar to the Sikyatki picture of the Plumed Serpent has been found by me at Awatobi showing that the Awatobian had a conception of this mythological being like that of the Sikyatki people. It is anticipated that when the pictures of the Rio Grande plumed serpents have been thoroughly studied they will support the legend that the Sikyatki and Awatobi people came from that region.

It is pointed out in the preceding pages that there still survives a butterfly cult in the Hopi pueblo, Sichomovi, and that it was brought there from the eastern pueblo region, via Zuñi, where for aught I know it still exists. But the cult came originally from the Rio Grande valley and is of Tewa extraction. Facts are presented as evidence supporting the claim that this element of culture is more modern at Hopi than that of the eastern pueblo region. Evidences have been advanced in former publications that considerable additions have been made to the Hopi sociology, linguistics,

¹Some of the Hano have also a Balulukon effigy.

mythologies, and rites by colonists from the Gila and Salt river valleys, the people that in prehistoric times built the large compounds¹ in southern Arizona. These facts all look one way, viz:—the Hopi pueblos as such are comparatively modern in their present settlements. It is evident, as a corollary to the belief that the Hopi culture is more modern than the cultures of the Rio Grande and Gila valleys, that the Hopi language has arisen in comparatively recent times being younger than Keresan, Tewan, or Piman.

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¹ Provided of course that the "ancients" who peopled compounds like Casa Grande on the Gila spoke the Pima language or some dialect of the same stock.

SEVENTEENTH INTERNATIONAL CONGRESS OF AMERICANISTS

First Session—Buenos Aires

By CHARLES WARREN CURRIER

AT the sixteenth session of the International Congress of Americanists, held at Vienna in 1908, both Mexico and Argentina claimed the privilege of the next session. To satisfy both claimants, in view of the approaching centennial anniversaries of 1910 which were to be celebrated in those countries with great splendor, the congress decided to take a step, unprecedented in its history, that of allowing the seventeenth session to be held in *two sections* one in each of the two countries interested. This is now a matter of the past, for the seventeenth session has been held in Buenos Aires and in Mexico.

Although I had also been delegated to the session at Mexico, unforeseen circumstances prevented me from being actually present. Hence it is that from personal experience, I may write only of the congress, as I saw it at Buenos Aires. Together with Prof. Bailey Willis, and Dr Aleš Hrdlička, I had the honor of representing the United States and the Smithsonian Institution, being, moreover, a delegate of the Catholic University of America.

The foreign delegates were hospitably received and most courteously treated, the government of Argentina even paying their bills at the Hotel Albion, on the Plaza de Mayo, which had been assigned them as their headquarters. Our congress was only one feature of the great occasion, as it had been in Spain in 1892, when the four hundredth anniversary of the discovery of America was celebrated. From my experience in Huelva, and in Buenos Aires, I believe that it is a mistake to permit the congress to take place on such occasions, when serious work must, of necessity, be more or less interfered with. Still it was admirable to behold the earnestness of our members, who seemed impervious to the distractions of the moment, and sacrificed some very agreeable fea-

tures of those days of splendor, on the altar of science. I believe that the congress is never in a more congenial atmosphere than when it meets in a city of moderate size, where tranquillity prevails, and I may cite as examples the sessions of Stuttgart and Quebec.

The routine work of the session was varied by entertainments and social gatherings which permitted the members to become better acquainted with each other, as well as with Argentinians of the intellectual class, especially those interested in Americanist studies.

A reception at the Club del Progreso on the evening of May 15 brought these elements together for the first time, and an automobile drive to Palermo park on the following day, rendered them acquainted with the beautiful zoölogical garden of Buenos Aires. In the afternoon of the same day, a visit to the Museo Mitre gave them vivid impressions of one of the greatest literary figures in Spanish America in the past century, the late Bartolomé Mitre, who, to his accomplishments as historian, poet, journalist, and statesman, added that of Americanist. The day closed with a reception at the United States Legation where our minister, Mr Sherrill, entertained as a most charming host, and in which the representative of the United States, Gen. Leonard Wood, was a central figure.

The congress began with a preparatory session on the morning of May 7 in the building of philosophy and letters of the University of Buenos Aires, in which all subsequent scientific sessions were held. The solemn opening took place in the large hall of the Banco Municipal, on the afternoon of the same day, in presence of the ministers of foreign affairs, justice and public instruction, and of the interior, as well as of the intendente, or mayor, of the city, and other distinguished persons. Discourses were pronounced, among others, by our minister, by Prof. Willis, and by Dr Hrdlička.

On Thursday, May 19, the sessions were interrupted for an excursion to La Plata, capital of the province of Buenos Aires, where the congressists were sumptuously entertained by the university, and presented to the governor of the province. The attractive feature of the occasion was the museum, with its abundant material

for complete biological studies of austral America, from the lowest forms of life to historic civilization. The archeological and ethnological department, under the direction of Prof. Robert Lehmann-Nitsche, with its section of anatomical anthropology, and its rich collection of crania, was of the greatest interest to the anthropologists who, probably, formed the major part of the Americanists present.

The President of the Congress was Dr José Nicolás Matienzo, Dean of the Faculty of Philosophy and Letters of the University of Buenos Aires, and the General Secretary, Dr Robert Lehmann-Nitsche, Professor of Anthropology in the Universities of Buenos Aires and La Plata. There were, of course, protectors, honorary presidents, vice-presidents, and so on, too numerous to mention.

The serious work of the congress began on the forenoon of Wednesday, May 18, and, during the session, numerous papers were read and discussed. It is not the custom of the Americanists to divide their work into sections, but the subjects of the papers were, nevertheless, logically classified, and a résumé has been given in a volume, recently published by Dr Lehmann-Nitsche, in anticipation of the publication of all the proceedings.

The subjects treated were divided into paleanthropology, physical anthropology, linguistics, general ethnology, archeology and ethnology of Mexico, Central America, Brazil, Argentina and the upper Paraná, Bolivia, Peru, and Chile, and finally colonial history and literature. It is not possible, nor necessary, to mention all the papers, which were read by such men as Ameghino, Lafone Quevedo, Lehmann-Nitsche, Seler, the patriarch of Americanist congresses, Max Uhle, Ambrosetti, José Toribio Medina, the historian and bibliographer, and many more whose productions may be read in the proceedings of the congress. To give a general idea of the work accomplished, it will be sufficient to point out a few salient features. For the anthropology of prehistoric man, Christfried Jakob of Buenos Aires treated of fossil brains of Argentine fauna, while Prof. Willis presented a paper on the transmutation of the Quaternary Epoch. Dr Ameghino gave us, in this section, his paper on the "stone industry" of the man of the Pampas.

Craniological studies were represented by Dr Aleš Hrdlička, Juliane Dillenius, Aldobrandino Mochi, Carlos Marelli, and Manuel Abella, Hrdlička and Dillenius treating of the deformation of skulls, with especial reference to America, and the latter presenting a special study on Calchaqui deformation.

Francisco Belmar, the Count de Charency, Lafone Quevedo, Von den Steinen, Manuel Dominguez, Echeverria y Reyes, Rodolfo Lenz, Adolfo Saldias, and Prof. Lehmann-Nitsche contributed papers on American linguistics, that of Lafone Quevedo belonging to the domain of American comparative philology. Of particular interest was the paper of Señor Anibal Echeverria y Reyes on the Cunza language, now extinct, which is quite isolated in its forms, among the surrounding dialects of the Atacama region.

Ethnology and archeology had the widest field in the congress, covering as they did, an immense area, and touching upon numerous phases of the sciences. Besides general ethnology of the various races of America, treated by such writers, as Simaens da Silva, Von Ihering, Burela, Oyarzun, Mayntshuzen, Garcia, Torres, and Maria C. Bertolozzi, we find a number of papers on specialties. Thus pottery painting in Peru formed the subject of a paper by Dr Seler, and Miss Breton contributed one on "Painting and Sculpture in Mexico and Central America." A kindred subject was treated by Max Schmidt in his paper on Peruvian textiles, with especial reference to their scenic representations. Iconography and petroglyphs in Peru, Argentina, and Chile found their exponents in Ambrosetti, Monsignor Toscano, Franz Kühn, Oyarzun, and Echeverria y Reyes. Prehistoric cemeteries came in for their share of attention on the part of Salvador Debenedetti, and Pedro P. Canales who gave us studies on those of the province of Jujuy in Argentina, and of the Pacific coast.

The probable use of Calchaqui wooden pipes, blow pipes, and so on, was treated by Samuel A. Lafone Quevedo, while Tomas Guevara and Aureliano Oyarzun presented a paper on prehistoric pipes and tobacco smoking in Chile. Various other archeological and ethnological subjects, such as buildings, the chase, and money, were embodied in papers by Bruch, Toribio Medina, and others.

To those especially interested in Peruvian archeology, a very

important paper was presented by Dr Max Uhle, in which he traced the origin of the Incas, from the moment when the Quichua race became independent of the Aymará. Inca civilization, which is entirely distinct from that earlier one that has left us the ruins of Tiahuanaco, is thus made to arise from a very humble beginning in the valley of Cuzco.

Arthur Posnansky of Bolivia carries us further back, delving into the obscure period of Tiahuanaco. It is needless to observe, that Peruvian archeology, with the Inca and pre-Inca periods of civilization, offers great opportunities to students like Uhle and Posnansky.

The congress adjourned in Buenos Aires, on May 23, to meet in Mexico. The session in Argentina was brought to a close with a banquet given by Dr Matienzo, President of the Congress, in the beautiful Jockey Club.

After the session, several members of the congress, among whom were Dr and Mrs Seler, and Dr Uhle, availed themselves of the overland trip, organized by Mr Arthur Posnansky from Buenos Aires to La Paz, and Lake Titicaca, and thence to Lima. Free transportation on the railroads controlled by them, was given by the Argentine and Bolivian governments. The journey, with all its unavoidable discomforts, was of double interest, as it afforded opportunities for a personal acquaintance with the Indians of the Andean slopes, and the great plateau of Bolivia, as well as for a visit to the ruins of Tiahuanaco.

In Lima, the Americanists had an opportunity of visiting the Museo Nacional, with its interesting collections of Peruvian archeology and ethnology, under the guidance of the distinguished director, Dr Max Uhle. From the capital of Peru, the few that were to take part in the congress at Mexico proceeded northward, and the first session of the Seventeenth International Congress passed into history.

BUREAU OF CATHOLIC INDIAN MISSIONS,
WASHINGTON, D. C.

SEVENTEENTH INTERNATIONAL CONGRESS OF AMERICANISTS

Second Session—City of Mexico

BY GEORGE GRANT MACCURDY

THE second session of the Seventeenth International Congress of Americanists was held in the Museo Nacional, Mexico City, Mexico, September 8 to 14, 1910. In addition to Mexico, the following countries were represented by official delegates present: Austria-Hungary, China, Costa Rica, Cuba, France, Germany, Guatemala, Holland, Italy, Japan, Portugal, Salvador, Spain, and the United States of America. There were also in attendance delegates from a number of learned societies and other institutions from various parts of the world.

The United States government was represented by: Prof. Franz Boas, Prof. Roland B. Dixon, Dr Aleš Hrdlička, and Dr Alfred M. Tozzer. The State of Louisiana was represented by Judge Joseph A. Breaux. Delegates from several American institutions were present: Drs Pliny E. Goddard and Herbert J. Spinden, American Museum of Natural History; Mr Stansbury Hagar, Brooklyn Institute of Arts and Sciences; Mr William Beer, Howard Memorial Library; Prof. George B. Gordon, University of Pennsylvania; Mrs Zelia Nuttall, University of California; and Dr George Grant MacCurdy, Yale University. All these are members of the American Anthropological Association.

To any one interested in American archeology Mexico offers remarkable attractions, not only in the priceless treasures of the Museo Nacional but also in the number and grandeur of the prehistoric ruins. The author spent five weeks in excursions to various sites, and in study at the museum. His program was no doubt duplicated by many other visiting members. The only official excursions announced by the committee of organization were those to Teotihuacan, Mitla, and Xochicalco. The first of these took place during the congress, to which excursion were invited

not only the members of the Americanist Congress but also the official delegates to the Mexican Centenary, the hosts being the Department of Foreign Affairs as well as that of Public Instruction and Fine Arts. It was made the occasion for the opening of the new museum at the ruins of Teotihuacan. An elaborate dinner was served in the celebrated grotto near the Pyramid of the Sun, at which speeches were made by both the Secretary of Foreign Affairs, Señor Creel, and the Secretary of Public Instruction and Fine Arts, Señor Sierra. The excursions to Mitla and Xochicalco took place after the congress and were unfortunately marred by some confusion and delay.

Among the centennial attractions that were of special interest to the Americanists was the great historic pageant occurring the day after the congress closed. The first section of the pageant numbering 839 persons, dealt with the epoch of the conquest, particularly the first meeting between Montezuma and Cortés (1519). The sections which followed represented the epochs of Spanish domination, and of independence, respectively.

There were a number of special social functions in honor of the congress, including receptions by the Secretary of Public Instruction and Fine Arts, and by Mrs Zelia Nuttall at her interesting home, Casa Alvarado, in the historic suburb of Coyoacán.

The mode of selection of the council emphasized a weakness of the statutes that should be remedied by amendment at the next congress. So far as I have been able to ascertain no change has been made in the statutes since the close of the first congress.¹ Article 7 of the statutes is as follows:

"The Assembly elects the Members of the Council of which the number is determined by the Committee of Organization.

"Each nationality should at all events, be represented by at least one Member."

This article gives the committee of organization power to limit the number of the council and thus in a measure to determine its personnel. By its very nature the committee of organization is temporary and a local body; while the congress itself is international.

¹ *Congrès Intern. des Américanistes, Compte rendu de la première session*, t. II, p. 170, Nancy, 1875.

Not a single member, for example, of the committee of organization of the immediately preceding congress in Vienna was on the committee of organization of the congress in Mexico. The latter committee decided to limit the council to governmental delegates. In doing so it took into the council diplomats and the judge of a state court, excellent men all of them but only momentarily interested in the purposes for which the congress exists. At the same time it left out of the council those who have been attending the congresses for years, some of whom had previously sat in its councils, and including professional Americanists attached to and delegated by some of the foremost museums and institutions of learning in America. If the last paragraph of Article 7 can be construed in such a manner as to take the control of the congress away from those but for whom it could not exist, it should be amended at the first opportunity; and the power to limit the number of the council should be transferred from the ephemeral committee of organization, often composed of members who never attended a congress before and who will probably never do so again, to the "assembly" of members present, which in a measure at least is a perpetual body.

During the congress, a committee of delegates from Mexico, France, Germany, Harvard University, the University of Pennsylvania, and Columbia University, met and agreed upon the foundation of an International School of Archeology in the city of Mexico. Other governments and universities may take part in this movement by subscribing to the by-laws (now in process of ratification). The present director of the school is Professor Eduard Seler.

The next Congress will be held in London during the month of September, 1912.

The following papers were presented and will be published in the *Compte rendu* of the Congress:

La etnología de las razas indígenas que poblaron las comarcas del sur de Tamaulipas. Alejandro Prieto.

Contribution to the anthropology of Peru. Aleš Hrdlička.

La huella más antigua quizá del hombre en la península de Yucatán. Estudio de la industria prehistórica de Concepción (Campeche). Jorge Engerrand.

Pruebas geológicas de que la parte norte de la península yucateca no ha podido ser habitada por el hombre durante la época cuaternaria. Jorge Engerrand.

Un caso de cruzamiento entre un chino y una yucateca de origen indígena. Jorge Engerrand.

Quelques observations sur l'art de guerir chez certains tribus nomades du nord du Mexique. Theo. Dupoyet.¹

La trepanación entre nuestros aborígenes. Alberto M. Carreño.

El rayo de luz y la cronología india. Abraham Castellanos.

Sobre correcciones del período de Venus en los manuscritos históricos mexicanos. Hermann Beyer.¹

Zodiacal symbolism of the Mexican and Maya month- and day-signs. Stansbury Hagar.

The celestial plan of Teotihuacán. Stansbury Hagar.

El zodiaco de los incas en comparación con el de los aztecas. Arnolfo Krum Heller.

Los grandes círculos de la historia maya según el manuscrito del Chumayel. Juan Martinez Hernandez.

La medicina entre los indios mexicanos antes de la conquista. Francisco A. Flores.

Publicaciones nuevas sobre la linguística americana. Franz Boas.

A classification of Maya verbs. Alfred M. Tozzer.

Lenguas de la familia nahuatlana; su clasificación. Francisco Belmar.

Dios ¿Qué idea tenían de el los antiguos mexicanos? Cecilo A. Robelo.¹

Idolatrías y supersticiones de los indios. Vicente de P. Andrade.

El verdadero concepto de la etnología. La ciencia de gobernar. Andrés Molina Enríquez (read by title).

Algunas lenguas que se hablan en el sur del Estado de Chiapas. Carlos Sapper.¹

The language of the Tano Indians of New Mexico. John P. Harrington.¹

Colon y la lengua castellana y las americanas. Antonio Sánchez Moguel.

¹ Read by title, but will be published in the *Compte rendu* of the Congress.

Itinerario de la expedición de Hernán Cortés á Hibueras. Marcos E. Becerra.¹

El testamento de Hernán Cortés. Francisco Fernández del Castillo.

Une mappe inédite de 1534, avec texte espagnol au verso. Louis Capitan.

L'œuvre géographique de Humboldt au Mexique. Eugen Oberhummer.

Les observations géographiques dans les lettres de Cortés. Eugen Oberhummer.¹

Resumen de mis estudios de documentos del siglo XV contenidos en el Archivo General y Público de la Nación. Zelia Nuttall.

Algunos de los primeros establecimientos de instrucción en el Reino de Nueva Galicia. Francisco Escudero.¹

Estudio geográfico, histórico, etnográfico y arqueológico de la República de El Salvador. Leopoldo A. Rodríguez.

Breves notas sobre la historia, la arqueología, y la etnogenia del territorio de Tepic. Francisco A. Flores.

Notes sur le Mexique. Auguste Genin.¹

A manuscript in Washington. Charles Warren Currier.¹

El Votán. Enrique Santibáñez.

Photographic notes on the Pueblo Indians of the southwestern United States. Frederick I. Monsen.¹

Estudio sobre la teoría del origen oriental de algunas razas americanas. Manuel Cortés.¹

Chronological sequence of the sculptures of Copan. Herbert J. Spinden.

Sobre algunas representaciones del dios Huitzilopochtli. Hermann Beyer.¹

Une figuration de Quetzalcoatl sous forme de serpent emplumé, enroulé, provenant de Mexico. Louis Capitan.

La stylisation de la figure humaine et la représentation des sacrifices humains sur les vases peints préincasiques de Vazca (Pérou). Louis Capitan.

Miniature clay temples of ancient Mexico. H. Newell Wardle.

An Aztec "calendar stone" in Yale University Museum. George Grant MacCurdy.

¹ Read by title, but will be published in the *Compte rendu* of the Congress.

Elements of Kato, an Athabascan dialect. Pliny E. Goddard.

Las ruinas de Uxmal. Eduardo Seler.

The ruins of northeastern Guatemala. Alfred M. Tozzer.

Un dato sobre la evolución del alfabeto entre los azteca y los maya. Jesús Díaz de León.

La reparación de las ruinas de Xochicalco. Leopoldo Batres.

Estudio comparativo de dos documentos historicos. Antonio García Cubas.¹

Some points in Louisiana cartography. William Beer.

Three centuries of total eclipses of the sun in Mexico: 1850-2150. David Todd.¹

Central and South America. Governmental coöperation the key to great opportunity. Louis E. Walkins.¹

Résumé of the papers on Mexican history, architecture, art, etc., read at the XVI Congress held in Vienna. Franz Heger.

YALE UNIVERSITY MUSEUM,
NEW HAVEN, CONN.

¹Read by title, but will be published in the *Compte rendu* of the Congress.

PERIODICAL LITERATURE

CONDUCTED BY DR ALEXANDER F. CHAMBERLAIN

[NOTE.—Authors, especially those whose articles appear in journals and other serials not entirely devoted to anthropology, will greatly aid this department of the *American Anthropologist* and the *Journal of American Folk-Lore* by sending directly to Dr A. F. Chamberlain, Clark University, Worcester, Massachusetts, U. S. A., reprints or copies of such studies as they may desire to have noticed in these pages.—EDITOR.]

GENERAL

- Acher (R. A.)** Spontaneous constructions and primitive activities of children analogous to those of primitive man. (*Amer. J. Psychol.*, Worcester, 1910, XXI, 114-150.) Written from the point of view of atavism and the theory of recapitulation. Treats of use of blocks for building, playing with sand and earth, use of stones in play and building, collections of stones, playing with snow and ideas about it, snow-balling, etc., use of strings (string games and plays), points and edges (liking for knives, scissors, arrows, phobias for sharp objects), modifications of bodily form (attempts to change stature, features, bodily peculiarities, etc.), attitude towards clothing, striking and hitting propensity, throwing, etc. A. sees "phyletic background" for these activities and tendencies and thinks that the analogy between the child and primitive man is very close. But not a few of these analogies vanish on closer scientific study. The material considered was obtained by the *questionnaire* method.
- Andree (R.)** Anthropologische Indices (*Globus*, Brnschw., 1910, xcvi, 160-161.) Calls attention to the need for and the value of indexes to the series of anthropological periodicals, etc. The recent index to the first 20 volumes of *L'Anthropologie* is heartily welcomed.
- von Andrian (F.)** Dr Ernest Theodor Hamy. (*Mitt. d. Anthropol. Ges. in Wien*, 1910, XL, 51-58.) Treats of life, scientific activities, publications, etc., of Dr E. T. Hamy (1842-1909), the French anthropologist and Americanist.

- Anthony (R.)** Quelques modifications adaptatives secondaires du thorax chez l'homme. (*R. de l'Éc. d'Anthr. de Paris*, 1910, XX, 257-266, 3 figs.) Treats of secondary modifications of the human thorax (antero-posterior flattening of thorax and sternum instead of bilateral flattening; considerable development of the clavicle; separation of the superficial pectoral muscles, etc.; regression of the deep muscles of the anterior region of the thorax), considered as "the results of the mechanical conditions of man's special adaptation."
- Bartels (M.)** Über europäische und malayische Verbotsszeichen. (*Z. d. Ver. f. Volksk.*, Berlin, 1910, XX, 202-207, 2 figs.) Treats of European (ditch, heap of twigs, pole set up with straw-wisp on top, "the King's glove" in a vineyard of Meran, black, or red as in the Tirol; pole with bleached skull of horse or cow placed on top, among Tatar peasants of Crimea) and Malayan (*matakdau* trespass and protection signs for plantations, gardens, etc., in the Malay Archipelago, especially on the islands of the Alfuro Sea, — there is a fine collection in the Royal Ethnological Museum in Berlin). In Italy (although referred to in Boccaccio) such signs seem not to occur. The erection of a *matakdau* is somewhat of a ceremonial and the punishments threatened are enmity of relatives, sudden death, certain diseases, etc., which fall upon the trespasser or offender, of themselves.
- Baudouin (M.)** La luxation congénitale de la hanche au point de vue anthropologique. (*Bull. Soc. d'Anthr. de*

- Paris, 1909, v^e s., x, 144-147.) Discusses anthropological aspects of congenital dislocation of the hip.—sex (not essentially a female trouble), bilateralism (bilateral almost as common as unilateral; bilateral a little rarer in males), right and left (right a little more common; unilateral right more common in males than left), lesions, frequency in prehistoric times, etc.
- et Taté (E.) Humérus anormal, à exostose double, d'origine préhistorique (Ibid., 262-264.) Brief account of a left humerus (possibly neolithic, but more likely Gallo-Roman, to judge from objects found with it) from the Grotte des Bas-Vignons, commune of Essonnes, Seine-et-Oise, with two exostoses, one of which the authors consider to be a reversional anomaly, the other, perhaps, "an exostosis of development."
- Belek (W.) Die Erfinder der Eisen-technik. (Z. f. Ethnol., Berlin, 1910, XLII, 15-30.) Discusses the question of the origin of iron-smelting and iron-working, etc. The late appearance of iron among them shuts out the whole Assyro-Babylonian area from the list of places where this art might have originated. B. argues against the origin of iron-smelting among the African negroes and its transfer thence to the ancient Egyptians and its spread elsewhere from them. B. holds that the oldest mention of hardened iron or steel is to be found in the Bible (Joshua, xvii, 16, 18; Judges i, 19 and iv, 3.) where the chariots of the Canaanites are referred to.
- Bellucci (G.) Sul bisogno di disetarsi attribuito all'anima dei morti. (A. p. l'Antrop., Firenze, 1909, XXXIX, 213-229, 4 figs.) Treats of the belief that the spirit of the dead needs something to drink (a bowl or vessel of some sort is placed at the feet of the corpse or elsewhere near it), a rite illustrated in prehistoric times (e. g. necropolis of Tani; neolithic grave of Sepino in Campobasso, etc.), among primitive peoples (Mincopis), African Muslims (Tunis, Algeria), modern Italians of Umbria, the Marche, the Abruzzi, etc., by various customs and beliefs respecting the "thirst" of the dead.
- Belot (A.) A propos de vocabulaire. (Bull. Soc. Libre p. l'Étude psychol. de l'Enfant, Paris, 1910, x, 101-105.) Gives results of experiments to determine extent of vocabulary of ignorant peasants, etc. Instead of being "only about 400 words," as Payot asserted in 1900, the stock of words of such an individual certainly reaches 3,000 and over quite often. See also the *Bulletin* for 1905-1907.
- Bloch (A.) La grosseur du mollet comme caractère anthropologique. (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., x, 87-96, 2 figs.) General discussion of the size and development of the calf of the leg as an anthropological characteristic, with special reference to the white and negro races. B. concludes that the lack of development of the calf is a mark of the negro race, and that this feature elsewhere (e. g., Ethiopians, Australians, Papuans, Veddas, Dravidians, etc.) is atavistic, showing their negro origin. A negroid element explains also the presence of this characteristic among the ancient Egyptians (the ancient Assyrian calf was very large). The very large calf of many white women is due to fat, not muscular development as is the case with men; in this they resemble young children.
- Présentation de portraits de deux jeunes chimpanzés, d'un jeune orang et d'un jeune gorille. (Ibid., 148-155, 4 pl.) Notes on the young chimpanzees (2 males, one female) at the Olympia Theater, a young orang and a young gorilla (in 1891 in Paris), with a succinct account of the intelligence and the external characteristics of the chimpanzee. The young gorilla is much less sociable than the chimpanzee and the orang. The intelligence of the chimpanzee is natural to it and not the result of "ancestral domestication hereditarily transmitted."
- Blythe (W. H.) On a slide rule and tables to calculate $P = .000365 \times L \times B \times H$. (Man, Lond., 1910, x, 124-126.) On the upper fixed rule the scale of logarithms of the product (P) is indicated; on the lower fixed scale the logarithms of the breadths (B), and on the movable slide those of the length (L) and the height (H) measured in opposite directions; the scales should be so arranged that one value of the product must agree with the proper positions of the respective logarithms of L, B and H,—the rest will follow.
- Boas (F.) Psychological problems in anthropology. (Amer. J. Psychol., Worcester, 1910, XXI, 371-384.) Dis-

cusses question of "the psychological laws which govern man as an individual member of society." Treats of examples from the domains of industrial activity, social structure, religious ideas, totemism, valuation of actions, art, language, groups of activities and of thoughts appearing in certain typical associations, etc. Such associations are exemplified in nature-myths (the distinction between the folk-tale and the nature-myth lies solely in the association of the latter with cosmic phenomena, something natural in primitive society, but occurring only as a survival in modern society); primitive decorative art (with us almost the sole object here is esthetic, among primitive peoples there is also the symbolic motif); totemism. The importance of automatic actions in the development of the customs and beliefs of mankind is pointed out (e. g., table manners, customs of modesty, taboos, local conventional styles of art, etc.). The older customs of a people, under new surroundings develop into taboos (cf. Eskimo taboo against eating caribou and seal on same day). The customary tends to become the ethic, or even the beautiful. The other later tendency to discover the motives of customary behavior leads to "secondary explanations," found at all stages of culture. Many of these "secondary explanations" are due to conscious reasoning. The development of the nature-myth, e. g., shows how, "when primitive man became conscious of the cosmic problem, he ransacked the entire field of his knowledge until he happened to find something that could be fitted to the problem in question, giving an explanation satisfactory to his mind."

- Borgeld (A.)** *Uit een oud reisboek.* (Volkskunde, Gent, 1910, XXI, 111-115.) Reprints from a book of travel printed at Amsterdam in 1679, some medical instructions for travelers of interest to the student of folk-medicine.
- Boule (M.)** *Le docteur Léon Laloy.* (L'Anthropologie, Paris, 1910, XXI, 612-613.) Brief account of life and scientific activities of Dr Laloy (1867-1910), collaborator on *L'Anthropologie* and author of two notable volumes, *L'évolution de la vie* (1902) and *Parasitisme et mutualisme dans la nature* (1906). In 1905 he became Librarian

of the Academy of Medicine (Paris). He was distinguished as a polyglot.

- Broomall (H. L.)** Variation of accent in English words. (Proc. Del. Co. Inst. Sci., Media, Pa., 1910, v, 29-40.) Shows from numerous data that "the general shift of English accent is toward the beginning of the word, but it may be restrained by (1) the tendency to differentiate the verb from other parts of speech, (2) the difficulty of pronouncing too many unaccented syllables, and (3) prefixes." The failure of the lexicographer to recognize many shifts of accent is pointed out.

A current variation in English pronunciation. (Ibid., 69-74.) Treats of the pronunciation of *t* or *d* followed by *i* or *y* preceding a vowel, "vacillating between its original *t* or *d* sound and its palatalized *ch* or *j* sound respectively." The extent of this variation shows how far "a spoken language belongs to its speakers and not to the grammarian and the lexicographer."

- Buschan (G.)** *Die Bedeutung der Verwandtschaftsbeziehungen für die Nachkommenschaft.* (Neuland des Wissens, Lpzg., 1910, I, 721-727, 772-775.) Discusses the significance of close intermarriage for the offspring, the arguments against consanguineous marriages (frequency of diseases in children, tendency toward infertility, greater mortality, malformations, etc., of offspring, occurrence of deafmutism, diseases of the eye, mental anomalies etc.) are considered. The conclusion reached is that when both consanguineous parents are bodily and mentally sound and come from stock free from hereditary taint, there is hardly danger of the offspring being affected for the bad. But long continued close intermarriage may finally lead to degeneration. Although the origin and progress of human culture are due to closebreeding (Reibmayr has emphasized this), nevertheless, occasional intermixture and "freshening" from outside is necessary for the avoidance of degeneration.

- del Campana (D.)** *Notizie intorno all'uso della "siringa" o "flauto di Pane."* (A. p. l'Antrop., Firenze, 1909, XXXIX, 46-61, 1 pl., 3 figs.) Treats of the use of the syringe or "Pan's pipe": Classic myth, use by Greeks and Romans, elsewhere in Europe; Asia, —Liu-Kiu is., China; Africa, —Congo region; Am-

erica,—no records from N. America, but known in S. America from Columbia, Ecuador, Brazil, ancient Peru, etc.; Philippine is., New Guinea; Timor; Solomon is., Fiji is., New Britain; Tonga is., etc. Many specimens of this instrument are in the Italian ethnological museums.

— Notizie sopra la raccolta etnografica del Prof. Domenico Del Campana. (Ibid., 1910, XI, 264-269.) The ethnographic collection of Prof. Del Campana, begun in 1903, consists of cult-objects, ornaments, dress, musical instruments, weapons, etc., from British India; musical instruments, ornaments, etc., from ancient Egypt and a few objects from the Congo; ornaments, weapons, dress, fish-nets, etc., from Australia and New Guinea; a few specimens from Canadian Indians. South America is represented by numerous ornaments, weapons, manufactures, etc., from the Chiriguano, Tobas, Matacos, Chorotia, etc.

Cartailhac (E.) Eugène Trutat. (*L'Anthropologie*, Paris, 1910, XXI, 613.) Note on the scientific activities of E. Trutat (d. 1910), director of the Museum of Natural History at Toulouse, the first real museum of human paleontology, and one of the early investigators of cave-man.

Chaillou (A.) Considérations générales sur quatre types morphologiques humains. (*Bull. Soc. d'Anthr. de Paris*, 1910, VI^e s. I, 141-150, 4 pl., 4 figs.) Describes and figures the four "morphological types" recently set up by Dr Sigaud of Lyons (with the additional evidence derived from measurements of 100 psychopaths, 100 soldiers, etc.): *Muscular* (the most wide-spread type; furnished the canon for Greek statuary; head more commonly brachycephalic; thorax well-developed; shoulders broad and high, etc.); *digestive* (represented most purely by the Eskimo; common in rich provinces of France, such as Beauce, Normandy, Lorraine; predominance of digestive apparatus, especially at the level of the trunk; soft parts of digestive regions of body easily deformable); *respiratory* (great development of thorax and of middle range of face; this type constitutes the chief part of the Semites and other nomads, and is found also among the Basques and Béarnais,—in the mountains of Central and Southern France); *cerebral*

(the head is here the chief characteristic, this type exhibiting those hierarchic traits of the skull which belong to the superior man from the intellectual point of view; occurs only among peoples of advanced civilization: Ptolemaic Egypt, southern Touraine, in France, etc.).

Chamberlain (A. F.) Some difficulties in Bible translation. (*Harper's Mag.*, N. Y., 1910, CXXI, 726-731.) Treats of difficulties in rendering the Bible, or parts of it, into the languages of primitive peoples, with illustration from Hottentot, Kootenay, Kele, Carib, Iroquois, Natick (Massachusetts), Ojibwa, Eskimo, Kacongo, Fjort, Quechua, etc. Notes also some clever achievements.

Clodd (E.) In Memoriam: Alfred Nutt. (*Folk-Lore*, Lond., 1910, XXI, 335-337, portr.) Sketch of life and activities of Alfred Nutt (1856-1910), folklorist, author of eleven books and numerous articles, etc.

Cockerell (T. D. A.) The future of the human race. (*Pop. Sci. Mo.*, N. Y., 1910, LXXXVII, 19-27.) Argues that "in the case of man, as with domesticated animals and cultivated plants, it is possible to get rid of many undesirable qualities, to combine others which are desirable, and to maintain indefinitely that which has been once secured." We may get a race of people "none of whom have a certain hereditary taint, all of whom have a certain hereditary quality." Beyond that we ought not to go, if we could, for "no one would wish to sacrifice the interesting diversity of human types which makes life chiefly worth while."

Comby (J.) Tache bleue mongolique. (*Arch. de Méd. d. Enf.*, Paris, 1910, XIII, 854-858, 1 fig.) Describes, with references to literature of subject, two cases of "blue Mongolian spot,"—one in a Jewish boy of 13 years, brunet, with a genital anomaly (hypospadias); the other in a boy of 13 months, born in the department of Seine-et-Marne. In the first case the spot is in the lumbar region, on the left of the vertebral column; in the other at the sacrum. It is evidently no "race-sign" in the European white child. The age of 13 is rather late for its persistence.

Cuvier (G.) Note instructive sur les recherches à faire relative aux différences anatomiques des diverses races

- d'homme. (R. de l'Éc. d'Anthr. de Paris, 1910, XX, 303-306.) Test of anthropological instructions drawn up in 1800 by the great naturalist Cuvier for the Baudin expedition to the South Seas. Calls attention to observation of cranial form in the various races, the defects of ethnic paintings (of the Negro especially), the need of anatomical specimens, of face and profile views, care in representing and describing dress and ornament, etc., the preparation and preservation of specimens. The Papuans, Australians, Patagonians, and Malagasy are mentioned, as deserving special attention. See Hervé (G.).
- Cyrus Thomas. (Amer. Antrop., Wash., 38, 1910, N. S., XII, 337-343, portr., bibliogr.)
- De Cock (A.) Spreekwoorden, zegswijzen en uitdrukkingen op volksgeleef berustend. (Volkskunde, Gent, 1910, XXI, 31-35, 70-76, 96-101, 143-150.) Continuation of proverbs, sayings and expressions (plants named after the Virgin Mary; after angels, after Jesus, or referring to them; after the apostles, saints; after thunder, etc.) based on folk-beliefs.
- Geparodieerde sermoenen. (Ibid., 37-40, 80-83.) Gives 7 mock-sermons in Dutch from various sources. See Bockenoogen (G. J.).
- Het Kerstfeest. (Ibid., 49-66.) Treats of the Christmas festival and its analogues, particularly in various countries of Europe (Teutonic lands, France, Silesia, Italy etc.).
- Spreekwoorden en zegswijzen over de vrouwen, de liefde en het huwelijk. (Ibid., 78-80, 115-120, 155-160.) Nos. 399-570 (with additional notes) of proverbs and sayings about women, love, and marriage.
- Sterfgeval. Florimond van Duyse. (Ibid., 120-121.) Appreciation of the works of F. van Duyse (1843-1910), son of the poet P. van Duyse, and author of numerous folk-lore articles, especially on folk-music, etc.
- Dirr (A.) Linguistische Probleme in ethnologischer, anthropologischer und geographischer Beleuchtung. (Mitt. d. Anthrop. Ges. in Wien, 1909, XXXIX, 301-320; 1910, XI, 22-43.) Treats of the history of language as the history of its changes (Dr D. confines the term "evolution," *Entwicklung*, to a progress from lower to higher), and the causes of such changes; phenomena of contact and "contamination"; special and class languages, minor languages of all sorts. According to D. "the most comprehensible and most easily and safely observable causes of all linguistic changes (whether phonetic, grammatical or syntactical in nature) are to be sought in the effects of two languages upon one another, whether these languages occur successively in one and the same people, or whether they are used side by side by the same people." And "what holds for a whole people is true also for its subdivisions, for even a unilingual people is not always a linguistic unity, but is made up of linguistic unities. This influence of the old language on the new and of the new on the old is illustrated by many examples. The evolution of a language occurs most rapidly when a mutual penetration of all strata and classes of people is possible or necessary." Reconstruction of "a common vocabulary," or, with its help, of "a primitive culture," must, according to D., remain mere patchwork, a useless undertaking. No anthropological (racial) substrate lies beneath, e. g., the linguistic "Indo-European." The "Indo-European" itself "is only a form of an earlier speech," and by this means we arrive at an ultimate first human language. Language is a social function and its variations are likewise of a social nature. Dr D. is writing a book on the Caucasian languages as illustrating the points discussed in this article. The Caucasus is "a linguistic laboratory."
- Dresslar (F. B.) Suggestions on the psychology of superstition. (Amer. J. Insan., Baltimore, 1910, LXVII, 213-226.) Based on the author's *Superstition and Education* (1907). Superstition seems to be "an exclusively human manifestation"; and "superstitions represent in part those conclusions which men have adopted in order to free the mind from the strain of incomplete thinking."
- Dubreuil-Chambardel (M.) Un cas d'hyperphalangie du pouce. (Bull. Soc. d'Anthr. de Paris, 1909, V^e s., X, 118-128, 3 figs.) Detailed account, with x-ray photographs, of a case of double left thumb (large right thumb also) in a typographer, aged 24, with family heredity of abnormalities of a similar kind.

- Ellis (H.)** The symbolism of dreams. (Pop. Sci. Mo., N. Y., 1910, LXXXVII, 42-55.) Notes that among the absurdities of popular oneirology there are some items of real significance and discusses the theories of the Freudian school, pointing out objections to the theory that the wish-dream is the one and only type of dream and that we dream only of things that are worth while. See the author's book, *Dreams* (N. Y., 1911).
- Eolithen.** (Globus, Brnschw., 1910, xcvii, 305.) Brief résumé of Dr Laloy's article in *L'Anthropologie* (1910).
- Fishberg (M.)** Ethnic Factors in Education. (Proc. Nat. Ass. f. Study and Ed. of Except. Children, 1910, 117-123.) Discusses "race," educational capacities of negro, Australian (black) and Jewish children. Holds that the American public school is of the greatest value in transforming child of other races. Dr F. is also of opinion that in the practical work of the teacher, especially in the elementary schools, ethnic factors may be disregarded. See the author's book, *The Jews* (Lond. and N. Y., 1910).
- Förster (B.)** Stanley's Selbstautobiographie. (Globus, Brnschw., 1910, xcvii, 299-303.) Résumé and critique of *The Autobiography of Sir Henry Morton Stanley* (London, 1909), with special reference to his African explorations, his relations with Emin Pasha, etc.
- Foy (W.)** Zur Geschichte des Gebläses und zur Herkunft der Eisentechnik. (Ibid., 142-144, 1 fig.) Treats of the history of the bellows and the origin of iron-smelting. F. holds that Africa can not at all be considered the home of iron-smelting, all the chief forms of bellows found in that continent being of Asiatic (partly Asia Minor, partly southern Asia) origin. The subject is discussed in detail in the author's article *Zur Geschichte der Eisentechnik* in *Ethnologica* (1, 1909). See *American Anthropologist*, 1910, N. S., XII, 112.
- Fritsch (G.)** Die Entwicklung und Verbreitung der Menschenrassen. (Z. f. Ethnol., Berlin, 1910, XLII, 580-586.) Discusses the origin and development of the human race (scheme on p. 583.) F. adheres to the idea of protomorphic, archimorphic, and metamorphic, with these stock-races (archimorphic): black, white, and yellow. The present protomorphic representatives of "primitive man," are not, according to F., the predecessors in line of the modern culture-peoples, but must be left out of the scheme of their evolution. The Malay is a mixed and not a principal race; likewise the American. According to F., the "Gês, Maku, Fuegians," represent the protomorphic primitive aborigines of America, the part "incapable of civilization," and the oldest American culture has affinities with Oceanic and Asiatic (in C. America) and European (in N. America). The centers of distribution of the human races have been in S. W. Asia (white), N. E. Asia (yellow) and central Africa (black). The protomorphic primitive "cultureless" race of Europe was the Neandertal; in Asia the Vedda, etc.; in Africa, the Bushman; in Australia, the aborigines of Queensland. This scheme by no means fits America well.
- Frizzi (E.)** Ein Beitrag zur Konstruktion des Sagittaldiagramms auf Grund absoluter Masse. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnschw., 1909, XI, 43-44, 1 fig.) Note on graphic representation (Martin apparatus) from measurements from nasion, lambda, prosthion, andinion.
- Galton (F.)** Numerical peoples for classification and recognition. (Nature, Lond., 1910, LXXXIII, 127-130, 5 figs.) Describes formula based on "five cardinal points" of portrait or human profile: nose-brow notch, nose-tip, notch between nose and upper lip, tip of chin, by extension of which peculiarities of profile (racial, family) can be expressed numerically so as to be serviceable for eugenic records. Examples of application.
- van Gennep (A.)** Paul Ehrenreichs Methode in der Deutung der allgemeinen Mythologie. (Hess. Bl. f. Volksk., Lpzg., 1910, IX, 190-207.) Criticises the views and theories expressed in Dr E.'s *Die allgemeine Mythologie und ihre ethnologischen Grundlagen* (Lpzg., 1910), particularly its "lunar theory" aspects, and the doctrine of the priority of "nature mythology." In more than one place Dr E. seems to put the cart before the horse in the way of explanation and interpretation.
- Giuffrida-Ruggieri (V.)** I caratteri pseudo-infantili. (A. p. l'Anthrop., Firenze, 1909, XXXIX, 15-17.) Discusses, with

critique of the views of Hagen, the "pseudo-infantile" characters of man. Hagen maintains that the human races are lower the more they depart from the proportions of the new-born European child. An abuse of analogy is seen in some of these *rapprochements*. As G.-R. says, "some are infantile only in the mental infantilism of him who maintains their existence." The so-called "infantile characters" of the female skull, e. g., are pseudo-infantile.

— Alcune idee controverse sul dimorfismo sessuale nell'uomo. (Ibid., 1910, XL, 44-50.) Discusses recent theories concerning sexual dimorphism in man (Hoernes, Stratz, Ellis, etc.). G.-R. argues, contrary to Hoernes, that "woman is more plastic than man," this greater plasticity resulting from a greater variability. Sexual dimorphism receives its explanation from the fact that "greater differentiation and greater variability and plasticity cannot coexist in the same sex." Sexual dimorphism is greater with the "higher" races, the divergence being least in the protomorphs. Secondary sexual characters are to be explained as characters of orthogenetic correlation, not the result merely of sexual selection.

— Classification des groupes humaines. (Scientia, Bologna, 1910, VII, 1-9.) Discusses the classification of human groups, with special reference to the views of Deniker, Sergi, Stratz, etc. According to Dr G.-R., neither the groupings of Deniker (17 in number), nor those of Sergi and other polygenists are justified, by reason of the unity of the human species. The real systematization of human groups must arise from investigations and studies such as those of Klaatsch, Martin, the Sarasins, Hagen, Stratz, etc. A classification of the somatic groups based on phylogenetic researches is possible to the monogenist (cf. Stratz's "phyletic classification," founded on the idea of physical characters regarded as "primitive," or as "progressive"). For the monogenist it is of great importance to know whether the American Indians, e. g., present at one and the same time the primitive characters of the whites and the primitive characters of the yellow race, i. e., whether they belong to the common undifferentiated stem from which these two later branched

off; whether, in like manner, the Australian blacks are pre-Negroid and pre-Mongoloid, and whether there are also correspondents to the rude European type (Klaatsch's Australoid), to the type of Darwin, and to the type of Socrates.

— Applicazioni di criteri paleontologici in Antropologia. (Monit. Zool. Ital., Firenze, 1910, XXI, 35-46, 1 fig.) Discusses the application of paleontological criteria in anthropology, with reference particularly to the views of Sergi, Depéret, etc. In man local or regional varieties and "races" exist, not separate species (the Australian, e. g., and the Samoyed, as Sergi, e. g., thinks) and this is true of prehistoric times as well,—the so-called *Homo Neanderthalensis* is not extinct even yet. No other species than the present one has been shown to have existed. The law of increase of stature phylogenetically and the law of specialization are of importance with regard to prehistoric man. Polygenism is not justified by prehistoric data.

— Paragone antropologico fra i due sessi. (Riv. d'Italia, Roma, 1909, XII, 650-662.) Discusses the problems of the anthropological comparison of the two sexes (relation of brain-weight and body-weight,—coefficient of cephalization; comparative volume of bones, etc.; relation of weight of femur, mandible, etc., to cranial capacity; body-weight and stature; length of trunk and of various members of the body, limbs, etc.; pelvis; relation of sections of limbs to one another, etc.). *Quantitatively* the variability of woman is greater than that of man, *qualitatively* (i. e., with respect to physiological ends), less. In general woman is more macroplastic and, therefore, microsome. In woman the functions of nutrition are developed at the expense of muscular energy. Woman is predominantly anabolic, man catabolic.

— Incroci ai due estremi della gerarchia delle razze umane. (Ibid., 1910, XII, 167-173, 3 figs.) Discusses the effects of *métissage* between "higher" and "lower" races as exemplified, e. g., in the "Bastards" of German Southwest Africa, who are the result of a mixture of Hottentots and Boers,—they number now some 2,500. In this "mixed race" there is a distinct improvement in physical appearance and constitution:

- Stature shows the effect of European influence; Hottentot steatopygia has disappeared (although the women are fatter in the region in question than Europeans; the smallness of the hands shows the Hottentot influence; the hair and beard may be said to be "intermediate" between the Hottentot and the European; the skin-color is like that of the southern European; the "Mongolian fold" appears in the "Bastards" as an infantile character only and is not carried over into adult age. Prof. Fischer (q. v.) says that these "Bastards" present on the whole "an intermediate type with an amplitude of variation of characters greater than that of their ancestral races." Prof. G.-R. thinks that in this mixture the higher characters may be most favored, there being throughout all mankind a tendency toward refinement of physical type. The case of the disappearance of the "Mongolian fold" may typify the course of evolution here in general. This tendency has assured the prevalence of the characters of the white, wherever he has mixed with the Negro; that we are not in presence of a simple "return to the white ancestor" is shown by the fact of the transmission in the case of the "Bastards" of the Hottentot hand in preference to the European.
- Godin (P.)** *Asymétrie des oreilles.* (Rev. Scientif., Paris, 1910, XLVIII, 811-812.) Gives results of observations of asymmetry of the ears in 100 boys and 100 adults. The left ear was larger in 89 per cent. of boys and 79 per cent. of adults.
- *De la puberté à la nubilité chez l'adolescent moyen au point de vue de la croissance.* (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s. 1, 497-501.) Treats of the period from puberty to nubility in the average adolescent from the point of view of growth ("puberty is the seminal factor of nubility"). The average adolescent of 15½ years of age has ended puberty when he is 17½; to become a nubile adult physiologically he will need three years; at 21 he is adult.
- Goldenweiser (A. A.)** Totemism, an analytical study. (J. Amer. Folk-Lore, Boston, 1910, XXIII, 179-293.)
- Goldstein (—)** Besitz und Vermögen bei den primitiven Völkern. (Globus Brnschw., 1910, XCVIII, 221-223.) Review and severe critique of Prof. J.

Kohler's article with this title in No. 24 of the *Internationale Wochenschrift* (1910). According to G., Prof. K. "repeats all the doctrines which recent scientific ethnography has given up as erroneous."

Goldziher (I.) Wasser als Dämonen abwehrendes Mittel. (A. f. Religsw., Lpzg., 1910, XIII, 20-46.) Treats of water as a means of keeping away demons. In Arabian poetical literature and folk-lore (blessing: may the thunderclouds be generous to you when dead; curse: may the rain never fall on your grave), names for rain indicating mercy, blessing, etc.; water as opposed to demons and demonic powers (India, water kills *rakshas*; exorcism by water among various peoples; Morocco, exposure to rain prevents headache, water cures many diseases), baptism and sprinkling in therapeutics and religion, use of water for and by the dying (use of water from the well of Zemzem), employment of water for the dead (sprinkling, washing, bathing,—of the ground, the grave, the corpse; rain on the grave, etc.), dew on the bones of the dead (in modern Jewish poetry), Jewish "water of life," Mohammedan "rain of the resurrection," etc. This article is confined to Semitic data.

Gomme (G. L.) Heredity and tradition. (Folk-Lore, Lond., 1910, XXI, 385-386.) Emphasizes importance of influence of environment ("superstition is not always inherited; it is also created"). More attention must be paid to the impressions of the surrounding life in their influence upon primitive thought, for "tradition is an external product operating on the human mind, instead of an inheritance from folk-memory."

Hahn (E.) *Niederer Ackerbau oder Hackbau?* (Globus, Brnschw., 1910, XCVII, 202-204.) Critique of part of the article of Dr K. Sapper (q. v.) in which the latter ascribes the origin of Central American Indian agriculture to men, and prefers the term "lower agriculture" to the Hahn-Ratzel expression "hoe-culture" (Hackbau). It is probable that the time and labor expended by women in the grinding and preparation of foods (e. g., maize in C. America) prevents them from agricultural work in the field, etc. For the condition of the coffee-plantations, etc., in Guatemala, H. would use the term suggested by him 20 years ago,—

Plantagenbau. An article on "Brand-cultur" by H. will soon appear.

Halliday (W. R.) The force of initiative in magical conflict. (Folk-Lore, Lond., 1910, xx, 147-167.) According to H., "all magic is in a sense a conflict" and it is by his power or *mana* or *orenda* that the sorcerer, "medicine-man," etc., works his will; "so-called sympathetic magic is based, not on a supposed axiomatic law that like causes like, but on the contagion of qualities"; union or contact with power is the foundation of magic, no less than of religion, and "the wide area of personality, as it is conceived in the lower culture, enables persons quite easily to be united, or brought into contact with power." Magic is almost "a conflict of wills," and the stronger personality absorbs the weaker. The secret of success "is to be the aggressor, to assert your power, to secure the upper hand and keep it." In certain rites, "contact with a dangerous power is deliberately anticipated in order to secure safety or to annul harm magically inflicted by that power." It is priority of action and initiative that constitutes success in such contacts.

Hervé (G.) À la recherche d'un manuscrit. Les instructions anthropologiques de G. Cuvier pour le voyage du "Géographe" et du "Naturaliste" aux Terres Australes. (R. de l'Éc. d'Anthr. de Paris, 1910, xx, 289-302, 2 figs.) Discusses the preparations for the Baudin expedition to the South Seas and the relation of the naturalist Cuvier to it. Cuvier's anthropological instructions drawn up in 1800 for this expedition are given *serbatim* at pages (264-269) of M. Girard's *Fr. Péron, naturaliste, voyageur aux Terres Australes*. (Paris, 1856.) Péron was the representative of comparative anatomy on this voyage. See Cuvier (G.).

— Le professeur Arthur Bordier. (Ibid., 104.) Brief sketch of life and works of French anthropologist (d. Feb., 1910). His chief publications related to medical geography, scientific colonization, comparative pathology. From 1878 to 1895 he occupied the chair of medical geography in the École d'Anthropologie (Paris).

— Le premier programme de l'anthropologie. (Bull. Soc. d'Anthr. de Paris, 1910, vii, 5, 1. 473-487.) Publishes (pp. 476-487), after the original

Ms., L. F. Jaffret's *Introduction aux Mémoires de la Société des Observateurs de l'Homme*, read in 1801 (the Society was founded in 1799 and lasted till 1805), in which are sketches of the investigations which such a Society might undertake,—the study of physical man, the varieties of man, the traits distinguishing him from the animals, comparative anthropology, manners and customs of ancient peoples, modern peoples, savages, etc., topographical anthropology, anthropological museum, study of deaf-mutes, experimentation with children segregated for the observation of the development of language, investigation of the mechanics of speech, etc. The only publication of the Society was J. M. de Gerando's ethnographic instructions to Capt. Baudin, entitled *Considérations sur les diverses méthodes à suivre dans l'observation des peuples sauvages* (Paris, an VIII, pp. 57).

Hutchinson (W. M. L.) A myth-maker's progress. (Oxf. & Cambr. Rev., Lond., 1910, No. 10, 78-94.) Treats of the Pindaric Odes,— "from the myth as an ornament, Pindar has advanced to the myth as ideal reflection of the local and particular, but already he stands on the threshold of a further development,—the myth as embodiment of the universal."

Jespersen (O.) International language. (Science, N. Y., 1910, N. S., xxxi, 109-112.) Advocates *Ido* as against *Esperanto*, replying to criticisms of Kellerman, etc.

Just (K.) Charakteristik des Kindesalters. (Jahrb. d. Ver. f. wiss. Pädag., Jena, 1910, xlii, 245-364.) Catalogues under 10 heads (domination of feelings, sudden change of disposition, joyous nature, weakness of attention and domination of sense-perceptions, covetousness, egoism and selfishness, extravagant imagination and fancy, fear-psychosis, shyness and embarrassment, lack of esthetic sense) and discusses the characters which distinguish the child from the adult.

Keller (A. G.) William Graham Sumner. (Amer. Anthropol., Lancaster, Pa., 1910, N. S., xii, 118-119, portr.)

Klotz (E.) Die "organisatorische" Orientierung des Organismus Mensch im Raume. (Globus, Brnschw., 1910, xcvi, 101-105, 2 figs.) Sets forth the author's ideas that the conception of man as *Erectus bimanus* (Ratzel) is

a phantom, and that organically man is a quadruped (e. g. *coltus* can be carried out "organically" only in the quadrupedal position of the female). See further K's *Der Mensch als Vierfüßler*.

Kühl (H.) *Antike und moderne Bronzen*. (Ibid., 21-24.) Gives analysis of ancient Egyptian, Trojan, Hindu, ancient Cyprian prehistoric bronze from several places in Brandenburg and Posen, Roman, Celtic, Japanese and Chinese, medieval European, etc. In the Middle Ages, aluminum, phosphorus, and manganese bronzes were unknown (belonging to the last century). Japanese and Chinese bronzes are lead-copper alloys. All ancient Greek, Egyptian, and Celtic bronzes have no lead or merely a trace; many ancient Roman bronzes have lead.

Lehnert (G.) *Ein Sympathiezauber*. (Hess. Bl. f. Volksk., Lpzg., 1910, IX, 207-208.) Cites from Krusenstein's *Reise um die Welt* (Berlin, 1811, Bd. I, S. 249) a fine example of "sympathetic magic,"—a case of obtaining revenge through the *kaha* magic (burying spittle, urine, or excrements of enemy). — Primitive Kunst. (Ibid., 207.) Calls attention to the representations of American Indian art (musical instruments, textiles, ceramics, etc.) in the *Leaflets of the American Museum of Natural History*, (N. Y.) Nos. 11, 15, 24.

Le Professeur Hamy. (J. de la Soc. d. Americanistes, Paris, 1908, [1909], N. S., v, 141-156, portr.) Appreciations of life and labors of Professor E. T. Hamy (1842-1909) as president of the Society of Americanists of Paris, as worker in the laboratory, as historian and geographer, as prehistorian and Americanist, etc., by MM. Vignaud, Verneau, H. Cordier, Capitan, Babelon (address at funeral), Richer, etc.

Leuba (J. H.) Magic and religion. (Sociol. Rev., Lond., 1909, II, 20-35.) L. argues that "the primary forms of magic probably antedated religion," but, "whether magic antedated religion or not, religion arose independently of magic; they are different in principle and independent in origin. This article is a chapter from Prof. L.'s book *The Psychological Origin of Religion* (1910.)

Liming (M. D.) A study of the methods of determining fame. (Science, Lancaster, Pa., 1910, N. S., XXXII, 157-159.)

Compares "Hall of Fame" votes, "descriptive adjective" method, and "lines of space" method, with respect to 50 American-born men. L. thinks either of the objective methods (adjective or space) "may be successfully employed in the selecting of a list of indefinite length."

Loth (W.) *Der heutige Stand unserer Kenntnisse über die Phylogenie des menschlichen Fusses*. (Stzgb. d. Warschauer Ges. der Wiss., 1909, 208-221, 10 figs.) Résumés present knowledge of the phylogeny of the human foot. The anthropoid foot is nearest the human; the Lemur foot, however, does not belong with the human but represents a stage of evolution very much beneath it phylogenetically,—hence Klaatsch's derivation of the human from the Lemur foot is not to be approved. Certain peculiarities of the anthropoid foot make it impossible that it should have been in the direct line of evolution of the human foot, the common ancestral form having to be sought among some of the lower types, e. g., the higher *Cercopithecidae* (the *Semnopithecidae* are a side-branch). The European foot is simply a walking-organ and has lost its original prehensile function which still occurs to some extent with primitive peoples and children where also the mobility of the big toe is considerable. At pages 183-208 is given the original more detailed Polish text of this paper.

— *Anthropologische Untersuchungen über das Hautleistensystem der Polen*. (Z. f. Morph. u. Anthropol., Stuttgart, 1910, XIII, 77-96, 1 pl., 1 fig.) Study of the markings of the fingers, hands, soles of the feet, toes of 107 Poles, in comparison with the investigation of Wilder (Mayas, Anglo-Americans, negroes). Schlaginhaufen (Hindus, etc.), based on 214 hand, 1,120 finger and 136 sole-prints. The group of Poles is probably racially purer than the Anglo-Americans and Central Europeans and they show a less variability and no extreme values. The Poles are nearer the Anglo-Americans than the Hindus, and the palm and sole of the Poles show a more "progressive" system of markings than the Anglo-Americans.

MacAuliffe (L.) et Marie (A.) Observation et mensuration de 200 oreilles d'aliénés, épileptiques ou idiots. (Bull. Soc. d'Anth. de Paris, 1910, VI^e s., I, 23-

33.) Gives length-measurements of both ears of 100 mental defectives, with records of "degenerative stigmata." According to Drs M. and M., the so-called "degenerative stigmata" (here auricular malformations) occur in about the same proportion in the general population and in the mental defectives here considered, with the exception of a few things such as derivation of the superior posterior lobe, convex folds of antihelix. His's supertragian tubercle, absence or effacement of the superior fold of the antihelix. Idiots present no more stigmata than other mental defectives.

MacCurdy (G. G.) Anthropology at the Boston Meeting, with Proceedings of Section H. (Science, N. Y., 1910, N. S., XXXI, 350-354.) Résumés of papers by Sapir, Moorehead, Hessler, Pepper, Montgomery, Speck, Lowie, Goldenweiser, Chamberlain, etc., on The Ute language, A Remarkable birch-bark fragment from Iowa, The Ojibwa of northern Minnesota, Ill-health of Darwin, Peale Museum, Calf Mountain Mound (Man.), Huron moose-hair embroidery, Totemism, Myth of Seven Heads, etc.

— Anthropology at the Boston Meeting with Proceedings of the American Anthropological Association for 1909. (American Anthropol., Lancaster, Pa., 1910, N. S., XII, 61-74.)

Magni (J. A.) The ethnological background of the eucharist. (Amer. J. Relig. Psych. & Ed., Worcester, 1910, IV, 1-47.) This article is narrower than its title. Treats of the Christian eucharist in relation to the Oriental mystery-cults (Mithraism, Gnosticism, St Paul's mysticism, etc.). According to M., "even the Christian eucharist is of ancient pagan origin, having become an integral part of the Christian cult by a process of theological speculation on the meaning of Christ's death, resurrection and mission in the world."

Mahoudeau (G. P.) Notes complémentaires sur les deux grands bovidés pléistocènes: l'aurochs et le bison. (R. de l'Éc. d'Anthr. de Paris, 1910, XXI, 379-386.) Treats of the history of the aurochs and the bison in Europe since the quaternary epoch. Towards the middle of the 16th century, when the aurochs began to be very rare, its name was transferred to the bison, — and now the *Bison europæus*, the last specimens of which are preserved in

the forest of Bialowicza (Lithuania) is commonly termed aurochs. The aurochs (*Bos primigenius*) was known to the ancient Hebrews, Chaldeo-Assyrians, etc.

Marie (A.) Note sur la mesure de la taille chez les aliénés. (Bull. Soc. d'Anthr. de Paris, 1909, V^e S., X, 97-100, 1 fig.) Gives general results of measurements of stature of 1,500 individuals suffering from general paralysis, mental debility of various sorts, manias, neuroses, alcoholism, etc.; from the department of the Seine. The low averages of height occur in those suffering from congenital psychoses (here, too, the minimum and the maximum individual heights were found) and exotoxic psychoses. In the cases of Involution-psychoses, functional psychoses, general paralysis, etc., averages resembling closely the normal occur, — in these mental troubles physical degeneration is not marked. Dwarfism and giantism occur often in combination with arrested cerebral development.

— Nano-infantilisme et folie. (Ibid., 101-113, 4 figs.) Discusses nano-infantilism in relation to idiocy and other mental defects and diseases. Dr M. recognizes three varieties of nanism or dwarfism: 1. Pure nanism with relative perfection of reduced forms and proportions; 2. Nanism and infantilism due to skeletal deformities; 3. Nanism and infantilism due to distrophy (total, local). The African pigmies are ethnic types of pure nanism. The nanism of the degenerate is "merely the permanence of an infantile condition through which all normal individuals pass." The theories of various writers (Apert, Marfan, Meige, etc.) are referred to. At p. 101 is given a photograph of 4 dwarfs in one German family observed by the author.

— Gigantisme et folie. (Ibid., 113-117.) Discusses giantism in relation to psychic defects and diseases. According to Dr M. acromegaly occurs sometimes without tall stature, just as infantilism is not infrequently independent of nanism. Giantism may be regarded as "acromegaly of infancy prolonged."

Mausser (O.) Zur Psychologie der Soldaten. (Globus, Brnschw., 1910, XCvii, 101-104, 125-128.) Gives texts of 6 letters from soldiers' notebooks. Also texts of the soldiers' "Vater-Unser

und Ave Maria," the soldiers' "Stations of the Cross," the Munich soldiers' "Litany," Regensburg soldiers' "Litany," "Recruit-life," "Auction," etc., all dating about 1907-1908. The parodying of religious documents is one of the interesting psychological aspects of military life and its expression.

Meyer (R. M.) *Mythologische Studien aus der neuesten Zeit.* (A. f. Religsw., Lpzg., 1910, xiii, 270-290.) Treats of the mythopoetic phenomena of present-day man. Three types are recognized. In the nursery, among religious fanatics, and among the political, social, and scientific dreams, real and surprising analogies with myth-creations are to be found. Fancy of child-speech, growth of sects around central dogmas, scientific myths (e. g., "cult is older than myth"), myths of devotional origin, "seeing things," cult-phenomena arising out of ecstasy, mythic element in Mormonism, mystic and mythic factors in religious founders and saints and imitation of such, Messianic longing, visions of Swedenborg, etc., "learned legends," meditation-myths, cosmogonic myths, mythology of modern science (e. g. in philology), etc., are discussed.

Mochi (A.) *Collezioni antropologiche ed etnografiche della Città di Milano.* (A. p. l'Antrop., Firenze, 1909, xxxix, 137-142, 3 figs.) Brief account of the anthropological material in the Municipal Museum of Natural History in Milan (200 plaster-casts of heads and skulls of celebrated men, due to a disciple of Gall; crania from various parts of the globe, including a score or so American Indian; many models of crania; ethnographic specimens, some fine ones from America). At p. 139 are given the measurements of a Lapp, 2 Arab, a Dinka, a Danikali, and an Abyssinian skull. In the Archeologic and Artistic Museum of the Castello Sforzesco is also some good ethnographic material; likewise an eneolithic and some Gallo-Roman skeletons. In the house of the Counts Turati is the collection made in 1846-1848 by the Milanese traveler G. Osculati, partly figured and described in his *Esplorazione delle regioni equatoriali lungo il Nipo ed il Fiume delle Amazzoni* (Milano, 1854).

de Mortillet (A.) *Le travail de la pierre aux temps préhistoriques.* (R. de

l'Éc. d'Anthr. de Paris, 1910, xx, 1-23, 41-51, 18 figs.) Treats of the working of stone for implements, etc., in prehistoric times. The various methods employed are discussed with some detail: *Cracking and bursting* by means of exposure to the heat of fire (Andamanese obtain in this way flakes of quartz; experiments of the Abbé Bourgeois and, recently of de Mortillet; prehistoric man of Thenay may have used this method); *percussion* of various sorts (used in the Puy-Courney epoch; experiments of Carl Haake); *pressure* (Solutrean epoch; Aztecs obtained obsidian blades by this means; Fuegian glass arrow-heads, etc.); *"pitting"* (used for crystalline rocks, etc.; Robenhausen epoch); *sawing* (common in Robenhausen epoch; known to Australians, etc.); *polishing* of two sorts (neolithic period in Europe, but known to many primitive peoples elsewhere); *boring* of two sorts (begins with neolithic period in Europe; known to many primitive people elsewhere).

Mueller (A.) *Die fünf typischen Profil-Kurven des Schädels der Neugeborenen und ihre Beziehungen zum Geburtslauf und zur Kopfform der Erwachsenen.* (A. f. Anthrop., Brnschw., 1910, N. F., ix, 53-63, 2 pl.) Treats of the 5 typical profile-curves of the skull of new-born children and their relation to birth and to the cranial form of adults. The 5 types are: occipital, vertical, sincipital, frontal, and facial. The basal form of cranium, according to Dr M., is "an ovoid of 13 to 14 cm. in length 8 to 9 cm. in breadth, and 7 to 8 cm. in height; this shape being most favorable for passage through the pelvis. The head born in position of type 1 leads to acrocephaly; type 2 produces a skull with lengthened occiput-bregma diameter; type 3 (rare) is unfavorable for the ovoid form and the fronto-suboccipital diameter is increased; type 4 is characterized by increase of the fronto-occipital diameter. The relations of the birth-mechanism to skull-form have been considered in detail by the author in his article in the *Archiv f. Gynäkologie*, Bd. 82.

Nannetti (A.) *Note sulla divisione anomala del malare, con illustrazioni di undici nuovi casi.* (A. p. l'Antrop., Firenze, 1909, xxxix, 18-45, 16 figs.) After general discussion with reference

to previous investigations, describes and figures 11 cases of anomalous division of the malar bone. As to the prevalence of these anomalies according to race, sex, and social classes, much difference of opinion and doubt exist. The percentage attributed to the Japanese is probably far too great. Some have seen in this anomaly of the malar bone a regressive or atavistic character. One reasonable explanation sees the cause of division in the origin of the malar bone from three centers of ossification.

Nutt (A.) Cuckoo heroes. (Folk-lore, Lond., 1910, xxi, 20-235.) Résumé and critique of the article of Dr Pokorny on the King Arthur legend as a myth of the cuckoo-hero. Dr P.'s views are altogether rejected.

How far is the lore of the folk racial? (Ibid., 379-384.) Argues that we must "seek for the remains of what is racially distinctive among the artistic rather than among the practical elements of the lore of the folk." From the lore of the folk alone, e. g., we could not safely infer the Scandinavian settlements of the 9th-11th centuries in Britain.

Oppenheim (S.) Ein Beitrag zur exakten Bestimmung des Inion. (A. f. Anthrop. Brnschw., 1910, N. F., IX, 18-22, 4 figs.) Discusses the exact determination of the inion (Klaatsch, Schwalbe, Broca, Le Double, Martin, Merkel, etc.). Miss O. holds that "the inion is the point of union of the *lineae nuchae superiores* in the median sagittal plane," i. e. "at the middle of the *tuberculum lineare*."

Palmer (A. S.) Folk-lore in word-lore. (Ninet. Cent., Lond., 1910, 545-557.) Treats of Auld Muff, Old Harry, Old Nick, Old Scratch, "deep as Garry (Garralt, etc.), Heckleburnie," "go to Hammer," "Jenny Greenteeth," "Roger's blast," etc., in English dialects, chiefly appellations of the Devil.

Papillault (G.) Sur quelques erreurs de méthode en criminologie. (R. de l'Éc. d'Anthr. de Paris, 1910, xx, 321-334.) Discusses modern theories of crime pointing out their errors, etc.: The Lombrosian biological theory, recently attacked by Dr Lebas in his *Étude critique des stigmates anatomiques de la criminalité*, etc. (Paris, 1910) and Dr de Lanessan in his *La lutte contre le crime* (Paris, 1910) in which works

education is strenuously advocated; the views of Allmen, who holds that the feeling for punishing offenders is a "protective feeling," socially effective,—thus both the biological and the reformative schools are deceived in looking at punishment only in its relations with the criminal. There is a difference between normal and abnormal criminals; there are also abnormals who are not criminals and criminals who are not abnormals. According to Dr P. both schools are right in a way, but the proportion of rightness belonging to each has not yet been determined.

Pastor (W.) Die Musik der Naturvölker und die Anfänge der europäischen Musik. (Z. f. Ethnol., Berlin, 1910, xlii, 655-675.) Treats of the music of primitive peoples (there is a threefold stratification: music as magic, developed in a pre-animistic epoch; music as rhythm, developed in an already advanced epoch of social division,—war and hunting, or labor songs; music as melody, developed first in contact with peoples of higher culture); prehistoric European music (trumpets, horns, lyres, etc.); musical sense of early Christian church, etc.; origin of multiple-voiced music (made its way in Europe against the church and not through its help). According to P., no uninfluenced primitive people was able to rise above a certain degree of horizontal two-grade music. The decisive step was taken by Europe and by the race dominating the North, with their freer and broader outlook upon the world,—to this we owe the beginnings of our European music. A clearer mental atmosphere there caused the freedom of the solar cult to rise out of the dull cult of the dead formerly prevailing; out of the cave-cult of the south with its lower races arose in the North a cult of the mountains. In primitive times music was bound, with the culture-bearing race of the North it became free.

Péladan (—) Théorie plastique de l'androgynie. (Mercure de Paris, 1910, lxxxiv, 634-651.) Discusses the androgynous concept in sculpture,—the esthetic problem was to fuse into one type the young man and the young woman,—in antiquity, early Christian Europe, the Renaissance, etc. Christianity was "a reaction of the Aryan and Occidental genius against Asiatic cor-

- ruption." The purity of the androgynous figure pleased Christian chastity freed from the vice and immoralities of Rome. The androgyne is the flower of humanity and is truly archetypal.
- Peters (J. P.)** O. Hamdy Bey. (Rec. of Past. Wash., 1910, IX, 176-181, 2 figs.) Brief account of the life and activities of Hamdy Bey (son of Edhem Pasha), who died February 24, 1910, having been since 1881 Director of the Imperial Museum at Stamboul.
- Piéron (H.)** Les méthodes iconométriques dans l'étude de la genèse psychosociale de la statuaire. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., I, 122-127.) Based chiefly on J. Laran's *Recherches sur les Proportions dans la Statuaire française du XII^e siècle* (Paris, 1909, pp. 108) in which the chief anthropometric data have been studied on 300 statues, and a new "science" of "iconometry" developed. Laran's results indicate the extraordinary variability (sometimes almost "anarchy") of the so-called "canons" (e. g. of the number of "heads" in the statue). "Spiritualization" had led to the diminution of the size of the head in figures of saints, archangels, the elect, etc.; gallantry has had the same effect with respect to women. M. Laran concluded that: a) In proportion to height, the head of a statue is smaller according as the height is greater; b) when the dimensions of a figure are made to vary, the height of the head varies much more slowly than the total height of the figure. M. P. notes that this law holds in anthropometry also, the shorter human beings having a proportionately greater head. M. Laran's statue-data give a proportion of heads in total height varying from 4 to 10 $\frac{1}{4}$, that of the French Schools being 7 $\frac{1}{2}$. The influences of individuals and of society are clearly revealed. Statues of one artist, of one school, of one epoch, of one and the same iconographic and monumental significance. On the same monument two statues or two artists differ more than two statues by one artist on two distant monuments; and likewise with different schools.
- Pinard (S.)** Quelques précisions sur la méthode comparée. (Anthropos, St. Gabriel-Mödling, 1910, V, 534-558.) Discusses the comparative method in the study of religion, etc. (hieroglyphy, hierology, hierosophy, in the nomenclature of Goblet d'Alviella). Principles of uniformity, originality, primacy, unity are considered.
- Preuss (K. T.)** Religionen der Naturvölker 1906-1909. Allgemeines. (A. f. Religsw., Lpzg., 1910, XIII, 398-465.) Reviews and critiques of works dealing with the general question of the religion of primitive peoples, fundamental problems, customs, ceremonies, material culture in relation to religion, etc. Works by Foucart and Goblet d'Alviella (comparative method), Wundt (myth and religion, pp. 402-413), Jevons, Achelis, Meyer, Lehmann, Hartmann, Marett, Wissler (Blackfeet), Vierkandt (magic and religion), Crawley (idea of the soul), Combarieu (music and magic), Hofschlaeger (therapeutics), Lasch (the oath), Frazer (kingship), Bethe (Doric paidophily), van Gennep ("rites de passage"), Runze (sacrifice), Seligmann ("evil eye"), Hertz (right hand), Diels (twitchings of limbs, etc.), Hahn (agriculture), Macculloch ("childhood of fiction"), Abraham and Rank (Freudian views of myths and dreams), Siecke (attributes of deities), Lessmann (comparative mythology), etc., are considered.
- Proceedings of the Anthropological Society of Washington.** (Amer. Anthropol., Lancaster, Pa., 1910, N. S., XII, 75-90.)
- Puccioni (N.)** Museo Nazionale di Antropologia e Etnologia in Firenze. Le collezioni Antropologiche. (A. f. Antrop. Firenze, 1909, XXXIX, 265-273.) Notes on the anthropological collections (crania, parts of skeletons, models, etc.) in the National Anthropological and Ethnological Museum in Florence. Europe is represented by 268 prehistoric, ancient, and medieval Italian crania, 1,434 modern Italian and 222 non-Italian; Africa by 168 crania, Asia by 285, Oceania by 574 and America by 472 (Eskimo 3, California 8, Haida 3, Chinook 1, Apache 2, Tarahumare 3, Mound-builders 1, Mexico 4, Ecuador 1, Colombia 5, Bolivia 1, Brazil 4, Gran Chaco 9, Pampas 14, Chile 9, Patagonia 12, Fuegia 21, ancient Peru 200, Calchaqui 9. The Museum contains also several casts and models chiefly of Papuans, American Indians, etc., many models of human hands and feet, models, etc., of anthropoids specimens of hair, a series of skulls illustrating fetal development, and other series showing sexual

- differences, Sergi's cranial varieties, etc.
- Rabaud (É.)** Lamarck, fondateur du transformisme, et la crise du transformisme. (R. de l'Éc. d'Anthrop. de Paris, 1909, XIX, 309-319). Discusses Lamarckianism, with reference to the recent works of Le Dantec, *La Crise du Transformisme* (Paris, 1909) and Landrieu, *Lamarck, le fondateur du transformisme* (Paris, 1909). Landrieu points out the newness and modernity of Lamarck and the place of the *Philosophie zoologique* in the thought of to-day.
- Read (C. H.)** Enrico Hillyer Giglioli. (Man. Lond., 1910, x, 17, 1 pl.) Brief account of scientific activities of Prof. Giglioli (1845-1909), the ethnologist and versatile man of science, with good portrait.
- Regnault (F.)** La forme des doigts supplémentaires, dans la polydactylie, indique que leur origine n'est point atavique. (Bull. Soc. d'Anthr. de Paris, 1909, V^e s., x, 79-80.) Argues from data of osseous morphogeny (in man and other animals) that supplementary fingers are not of atavistic origin, but due to embryonic causes, preventing the atrophy of one or more of the other four cellular sets, which generally fail to develop into fingers. The atrophy and development seem both to bear on the transverse diameter.
- Les types humains d'après les principales proportions du corps. (Rev. Scientif., Paris, 1910, XLVIII, 683-689, 4 figs.). Sketches history of subject, — Ideas of Charpey (1892-1908), Manouvrier (1902), Regnault (1903). Latiform and longiform types of body (with parts and organs corresponding) justified by folk-thought and scientific measurements, etc. These two types are adapted to different modes of life and ends; they are accompanied by different motor functions, etc. A disharmonic type (part latiform, part longiform) also exists; it may arise through disease, too prolonged physical exercise, muscular inactivity, etc.).
- Reichel (H.) et Burle (E.)** Du trouble (Befangenheit) comme motif de suspicion. (R. d. Ét. Ethnogr. et Sociol., Paris, 1909, II, 374-376.) Argues against the acceptance of the recent "demonstration" by the experimental psychological method of guilt as revealed by emotional reaction and disturbance.
- Reinach (A. J.)** Sur l'origine du coq. (L'Anthropologie, Paris, 1910, XXI, 75-78.) Discusses the figure of the cock on coins found in ancient Artemisia, possibly not Lydian but Ephesian, since it appears on coins of Ephesus as well. Mention of the cock in Greece goes back to the verse of Theognis in the middle of the 6th century, B. C. R. rejects the common view that the cock reached Europe through the Persians (cf. the sacred bird of Mazdeism), by way of Lydia, about the beginning of the 6th century. The Cretan coins of Phaistos, with figures of the cock and the god-name *Welchanos*, belonging to a people of Etruscan affiliations lead R. to attribute to them "a thousand years before the appearance of the Persians, the diffusion of the cock and its cult in Crete, Lycia and Lydia." See also Baethgen's *De vi ac significatione galli in religionibus et artibus* (Göttingen, 1887) and D. G. Hogarth's *The Archaic Artemisia* (London, 1908).
- Rivet (P.)** Recherches sur le prognathisme, II. (Ibid., 505-518.) Gives results of the study of the naso-alveolar angle in 5,615 human, 151 anthropoid, and 334 simian skulls. In simians and anthropoids prognathism is noticeably less in the young than in the adult; in the simians great variety exists within the same family or species; the orang, gorilla, and chimpanzee females are considerably less prognathic than the males, particularly the gorilla and the orang. In man prognathism is less in the child and in the aged than in the adult; but there appears to be no regular or marked variation according to sex; prognathism is probably not at all, or very little, connected with the general form of the skull; as to form of face, it may be that in a general fashion the most marked prognathism occurs in skulls with narrow and long face, — prognathism is more allied to leptoprosopy, orthognathism to chamaeprosopy, but long and short faces alike may be found among very prognathous groups of mankind, such as, e. g., the Eskimo and Neo-Caledonians, and also among the very orthognathous, e. g., Polynesians and Vedda.
- Roth (E.)** Der böse Blick. (Globus, Brnschw., 1910, XCVII, 80-81.) Resumes briefly the data in S. Seligmann's

monograph on the "evil eye."—*Der böse Blick* (2 Bde. Berlin, 1909). The belief in the "evil eye" is ancient and world-wide. Animals are not so often credited with it as man. Innumerable effects are attributed to it and the charms against it are legion. When the eye came to be regarded as the seat of the soul many things that had nothing whatever originally to do with that folk-thought, were gradually attached to it. The "evil eye" represents misunderstood anatomical, physiological, and physical observation of human and animal eyes, unexplained experiences of human and animal life, suggestion, etc.

Sabre (M.) Pieter Breugel en de folk-lore. (Volkskunde, Gant, 1910, XXI, 93-95.) Treats of the folk-lore value of the works of P. Breugel for the study of the 16th century. In 1907 was published R. v. Bastelaer and G. H. de Loo's *Peter Breugel, l'ancien, son oeuvre et son temps*.

Folkloristische Hazenpastei. (Ibid., 129-142.) Treats of the hare in folk-lore (among Algonkian Indians, ancient Egyptians, Celts, Hebrews, Aztecs, Hottentots, Teutonic peoples, French, Basutos, proverbs, legends, etc.). Hare as deity, tabu animal, totem, hare in moon and moon-spots, hare-lip, cowardice and cunning of hare in beast-fables and animal-tales, hare-blood as medicine, hare in folk-medicine, *coagulum leporinum* (haselpuit), eating hare-flesh to gain beauty, change of sex as well as color attributed to the hare.

— Duijfe en Willemijntje. (Ibid., 155.) Note on the saying common in Bruges, "Ze komen overeen lijk Duijfe en Willemijntje." These two personages figure in a Dutch folk-book *Duyfkens en Willemynkens Pelgrimage tot haren beminden binnen Jerusalem* (oldest edition, Antwerp, 1627) by Boetius à Bolswert. A French edition of 1734 bears the title *Le Pèlerinage de deux sœurs Colombelle et Volontaire vers leur Bien-Aimé en Cité de Jerusalem*.

Saintyves (P.) Tallamans et reliques tombés du ciel. (R. d. Ét. Ethnogr. et Sociol., Paris, 1909, II, 175-192.) Treats of tallamans and relics "fallen from the sky": Aeroliths (sacred stones of the Semites, *brith-el*, thunderbolts), *gemmae cerauniae* in the ancient world

from Europe to India; fossils regarded as thunderbolts (belemnites; the Spartan *thrasydile*); natural "sports" thought to be of celestial origin; prehistoric stone weapons and implements, axes, etc., looked upon by the ignorant as "thunder-stones," etc.; idols, fallen from the sky (*Xoana*, *palladia*, *diopetes* statues, etc.).

Sapper (K.) Einige Bemerkungen über primitiven Felddau. (Globus, Brunschwig, 1910, XCVII, 345-347.) S. regards "digging-stick cultivation" and "plant-stick cultivation" (two distinct forms, the one in the South Pacific, the other among the Indians of Central America) as lower forms beneath the higher form of "hoe-culture" (Hahn). He holds also to his view of the invention and maintenance of agriculture in C. America by men.

Sawalischin (Marie) Über Gesichtsindeces. (A. f. Anthropol., Brunschwig, 1909, N. F., VIII, 298-307, 6 fgs.) Gives results of study of facial indices in 121 skulls (19 Papuan, 25 Battak, 5 Fuegian, 20 Ura, 25 Egyptian and 27 Swiss) in the Anthropological Museum of the University of Zürich.—4 varieties each of total and upper facial index are discussed, also formulae for reckoning facial indices of the skull from those of the living subject. No agreement in the groupings of the total and upper facial indices of various authors existed hitherto. No marked correlation between the total and upper facial indices. The measurement-points of the Virchow index for facial width disqualify it in the comparison.

Schmidt (W.) L'origine de l'idée de Dieu. (Anthropos, St Gabriel-Mödling, 1910, IV, 1075-1091; 1910, v, 231-245.) Discusses theories of Dr C. T. Preuss on origin of religion and art; E. Lehmann on religion and magic; A. Vierkandt on beginnings of religion and magic; E. S. Hartland on early religion. Also résumés results of criticism of "magic" theory of religion (Father S. gives King the credit of having best demonstrated the origin of magic properly so-called, i. e., from the aspect of new, strange things). Another cause of "magic" is represented by Hubert and Mauss to be the deeply felt social need. Marett and Vierkandt have pointed out the importance as a fecund source of magic ideas of the external movements of the body pro-

ceeding from the vivacity of internal agitations. Father S. maintains that the normal and not the "magic" causality comes first and suffices to explain the psychological, ethnographic and prehistoric facts in question. This monograph by Father Schmidt on the origin of the idea of God has been reprinted in French: *L'origine de l'Idée de Dieu. Étude historique-critique et positive* (Vienne, 1910, pp. xiii, 310).

Schröder (O.) Begraben und Verbrennen im Lichte der Religions- und Kulturgeschichte. (Mitt. d. Schles. Ges. f. Volksk., Breslau, 1910, xii, 48-73.) Treats of burying and cremation from the point of view of religion and culture-history. Burial with property and grave-gifts (in parts of white Russia today grave-gifts are still buried with the dead), burial of horses, slaves, wives or concubines, death-feasts and funeral-meals, memorial ceremonies, abandonment of house in which death took place, cairns, monuments, graves, megaliths, mounds, house for the dead, position in which corpse is buried (knee-elbow, etc.), toilet of the dead, use and arrangement of coffin and contents, "death-trees" for burial, etc. Funeral pyres and cremation (possibly of accidental origin, a sort of preservation process at first, then intentional burning to ashes), the soul freed in smoke and through flame, burning up of property and funeral-gifts, incineration of children not common, burning of corpses in the grave, urn-burial and hut-urns (analogy between house and tomb, etc.). S. is of opinion that cremation is gaining in Germany today. See further on this subject the author's *Reallexikon der Indog. Altertumskunde* (Strassburg, 1907) and his article on *Aryan Religion* in Hastings' *Encyclopedia of Religion and Ethics*, vol. II., 1910. This interesting address has been reprinted in pamphlet-form (Breslau, 1910, pp. 31).

Schrijnen (J.) Duivelsnamen. (Volkskunde, Gent, 1910, xxi, 5-7.) Notes on folk-names of the devil: *Zwart Hennecke, duiker, ter duiker*, etc.

— Die ouchristelijke liefdesmalen. (Ibid., 66-70.) Notes on the early Christian *agapē*, compared with the "death meal" among Teutonic peoples and other heathen analogues.

Schwalbe (G.) P. W. Schmidt's "Arbeit

Die Stellung der Pygmäenvölker in der Entwicklungsgeschichte des Menschen." (Globus, Brunschwg., 1910, xcvi, 53-56.) Résumé and critique of Father Schmidt's book on *Die Stellung der Pygmäenvölker in der Entwicklungsgeschichte des Menschen* (Stuttgart, 1910, pp. 300). Schwalbe does not believe in the unity of the African and Asiatic pigmies, or that brachycephaly is an absolute characteristic of the pigmies (this would not agree with the infantile-form theory, as Schwalbe notes), or that the pigmy culture is "homogeneous," or that they all have ideas of a supreme being.

Schwerz (F.) Untersuchungen über das Verhältnis von Frontal-, Parietal- und Occipitalsehne zur Schädelbasislänge. (A. f. Anthrop., Brunschwg., 1910, N. F., ix, 50-52, 1 fig.) Treats of the relation of the frontal, parietal, and occipital nerves to the length of the basis of the skull in man and the anthropoids, 3 indices being obtained in this way: 200 human and 100 monkey skulls were studied. None of the anthropoid indices was less than 100; the youngest animals show the smallest indices, also children. The general result shows that human and anthropoid skulls differ much, the former having long, the latter short roof bones. Both in man and the anthropoids the length of the skull-basis grows faster in the course of development than that of the roof-bones.

Sera (G. L.) Sul piano orizzontale del cranio. (A. p. l'Antrop., Firenze, 1910, xi, 19-43, 11 figs., Bibl.) According to S., "craniological research must deal exclusively with the problem of the production of the different adult forms on the basis of the mechanics of evolution." The idea of the horizontal plane of the skull (the various methods, French and German, are considered), "is neither purely physiological nor purely anatomical." The existence of movements in the orbit does not invalidate the "bi-orbital plane," and the orientation of the skull can only be accomplished by improving and perfecting the technique of Broca.

— L'attuale controversia su poligenismo e monogenismo in Italia. (Ibid., 97-108.) Treats of the controversy concerning polygeny and monogeny in Italy, particularly the writings of Sergi, Giuffrida-Ruggeri,

the protagonists of these two views. The latter is a "neomonogenist"; Sergi seeks now to establish 4 human species: *Archeanthropus* (here belongs Ameghino's *H. Pampaeus*), *Paleanthropus* (*H. Europaeus* or *H. Primigenius*), *Notoanthropus* (*H. Afer*), *Hecoanthropus* (*H. Asiaticus*).

Australoidismo e neandertaloidismo. (Ibid., 189-202, 1 pl., 3 figs.) Discusses the question of the resemblances of the Neandertal type of cranium with that of the modern Australian aborigines. S. holds that the Neandertaloid is really "Australoid" in its characteristic features,—the Neandertal skull itself is a more specialized type. "Australoidism" may be partial or complete, involving all the skull, or limited to some trait of the face or of the cranium. Australoid skulls may turn up with a certain frequency in isolated regions of Sardinia and continental Italy. Three such skulls (one from Roccasecca in the province of Caserta, the second from the island of Liri, the third a Sardinian skull) are described by S.—there are also notes on two others. S. considers Australoidism to be "morphological atavism," a form of reversion in European dolichocephaly.

Siffre (A.) Présence sur une mandibule de gorille d'une 4^e molaire. (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., X, 81-82.) Briefly describes occurrence of a fourth molar (rare in both man and anthropoids) in the jaw of a female gorilla belonging to the Museum of the École d'Anthropologie, Paris.

Sollas (W. J.) Paleolithic races and their modern representatives. II. (Scient. Progr. Lond., 1909, III, 500-533.) Treats of early pleistocene man and the Tasmanians (pre-Chellean man's state of culture "was not far removed from that of the now extinct Tasmanians), and lower paleolithic man (Strepyian, Chellean, Acheulean, Mousterian stages). Evidence points to extension of a primitive race allied to the Australian over a great part of the old world.

S(tarr) (F.). Charles Staniland Wake. (Amer. Anthropol. Wash., 1910, N. S., XII, 343-344.)

Steinmetz (S. R.) Eine Berichtigung zu Eduard Hahn's Aufsatz "Niederer Ackerbau oder Hackbau." (Globus, Brnshwg., 1910, xcvi, 66-67.)

Points out that H. Schurtz was not the first predecessor of Hahn to attribute the invention of agriculture to women. Von den Steinen in 1894 and Mason in 1895 were before him, and anterior to them Lippert in 1886. S. also notes that the sex division of labor in the explanation of family-forms has not been so neglected by ethnologists as Hahn has stated.

Stratz (C. H.) Wachstum und Proportionen des Menschen vor und nach der Geburt. (A. i. Anthropol. Brnshwg., 1909, N. F., VIII, 287-297, 8 figs.) Treats of height, weight, and proportions of the body from early fetal life (earliest noted human embryo is 0.015 cm. long) to adult age with diagrams illustrating increase, etc. The ripe fetus has a length of 4 head-heights or 50 cm., and a weight of 3000 gr.

Szombathy (J.) Dr. Matthäus Much. (Mitt. d. Anthropol. Ges. in Wien, 1910, XI, 48-50.) Brief account of life, scientific activities, and publications of the archeologist M. Much (1832-1909), who paid special attention to Teutonic and European Aryan prehistory.

Täuber (C.) Die Ursprache und ihre Entwicklung. (Globus, Brnshwg., 1910, xcvi, 277-282.) Dr T. seeks to trace the Indo-Germanic tongues back to a few roots (and after that to discover the primitive language from which all others have sprung). His 6 primitive roots of Indo-Germanic are "m+a vowel" (liquid food), whence all sorts of words from *mama* to *Meinung*; *p*-sound+a vowel (solid food) words of the type of Latin *panis* (bread), *Papa*, Latin *pater*, and such as *Flamme*, *Blut*, etc., with subsidiary root *bar* (cave, hiding place); *w*+a vowel (atmospheric fluid), words like *Nass*, *Netz*, *Schnee* (snow); Lat. *nix*; *neu* (new), *Nacht*, etc.; *t*-sound+a vowel (wood), *tree*, *tanne*, *stehen*, *tun* (do), *L. domus*, etc.; *l*- (or *r*-) sound+a vowel (food and drinking-place), *Loch* (Lat. *lacus*), *Lust*, *Lippe*, *rinnen*, *L. rivus*, Greek *rhoe*, etc.; *k*-sound+a vowel (animal-world), *Kuh*, *Kalb*, *L. caper*, *Hals*, *Höhle*, *küssen*, *Haut*, etc. These same ideas are expressed in the author's recent book *Ortnamen und Sprachwissenschaft. Ursprache und Begriffsentwicklung* (Zürich, 1908). Dr T. also believes that Basque, Etruscan, Ligurian and Pelasgian are "the last

- posts of the Ural-Altaians ere they were driven from Europe."
- Thompson (A. H.)** The psychology of the tool-using faculty. (Dental Cosmos, 1910, Repr., pp. 1-7.) Discusses absence among animals of rational use of tools and weapons; man's use of tools and psychic emergence coincident; man's evolution due to terrestrial habits and omnivorous diet; evolution of man's thinking powers coincident with increase of manual skill; artificial shaping of natural substances into tools and weapons as completing man's evolution; the tool-using faculty the main factor in human evolution.
- Valettes (P.)** Le Dieu Soleil et la fête de Noël. (Bibl. Univ. et Rev. Suisse, Lausanne, 1910, LVII, 72-96.) Compares heathen and Christian rites of Christmas. Christianity "celebrates at this time the birth of the divine child and the birth of the sun."
- Van der Linden (J.)** Discours. (Volk-skunde, Gent, 1910, XXI, 160-163.) Address at opening of the National Folk-Lore Exhibition, July 29, 1910, in the Jubelpark, Brussels.
- Variot (G.)** Nigritie congénitale du scrotum et hyperpigmentation des petites lèvres chez des enfants nouveaux-nés. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e S., I, 76-77.) Note on cases of congenital dark pigmentation of the scrotum (observation of 4,000 children gives about 1 in 300, or .33%) in European new-born children, and a case of hyperpigmentation of the *labia minora* in a girl 10 days old. Such hyperpigmentations of a precocious nature compared to very marked dark pigmentation in adults.
- Verneau (R.)** Le professeur E.-T. Hamy et ses prédécesseurs au Jardin des Plantes. (L'Anthropologie, Paris, 1910, XXI, 257-279.) Treats of the late Prof. Hamy and his predecessors at the Jardin des Plantes (created in 1635), their scientific activities, etc. M. C. de la Chambre (professor 1635-1639), F. C. de la Chambre (1671; after 1672 titular only), P. Cresse, P. Dionis (anatomist, 1689), G. J. du Verney (anatomist), P. J. Hunauld (anatomist), J. B. Winslow (anatomist, 1745-1758), A. Ferrein (anatomist, 1758-1769), A. Petit (anatomist, 1769-1777), F. Vicq-d'Azir, Antoine Portal. In June 1793 the Muséum d'Histoire

Naturelle was created by decree of the National Assembly. The chair of human anatomy was occupied afterward by A. Portal (until 1832), M. J. P. Flourcens (1832-1865). In 1838 the title of the chair was changed to "anatomy and the natural history of man," and was occupied by E. R. A. Serres (1838-1855). In 1855 the chair was renamed "Anthropology" and its occupants since have been J. L. A. de Quatrefages de Bréau (1855-1892), T. J. E. Hamy (1892-1909) and R. Verneau (1909-). An account of Dr Hamy's life and works in particular is given (pp. 270-278).

- Virchow (H.)** Bericht über den Stand der Rudolf Virchow-Stiftung für das Jahr 1909. (Z. f. Ethnol., Berlin, 1909, XLI, 956-961.) Report on activities, etc., of the Rudolf Virchow Foundation for 1909. The investigations of Gaupp (China and Manchuria), Frobenius (Niger region of W. Africa), H. Schmidt (archeology of lower Danube and Balkan regions) were aided. Grants have been made to Hr. Oesten (archeology of Tollense and Lieps Lake, Fischer I.), B. Hantzsch (2500 M. for expedition, primarily ornithological, but also ethnological and philological, to northern Baffin Land), Hr. Wiegner (diluvial man in Germany), H. Schmidt, etc.

Überzählige Skelettstücke (Epiphysen) an Händen und Füßen eines Gorilla. (Ibid., 1910, XLI, 320-336, 15 figs.) Treats of three supernumerary epiphyses on the *Pisiformis* and *Hamata* of the hands and the *Navicularis* of the feet of a gorilla from Jaunde in the Cameroons; also possibly a former epiphysis on the fifth metatarsal. Reference is also made to corresponding phenomena or their traces in man. These epiphyses are probably due to mechanical causes.

Muskelmarken am Schädel. (Ibid., 638-654, 14 figs.) Treats of muscle-marks on the human skull (Herero, Chinese, negroes, Jaunde, hydrocephalic boy, ape, Guayaqui girl, Cameroon negro, Egyptian mummy, etc.), according to 5 groups: the biting-chewing muscles; the neck-muscles, etc.; the upper-face muscles; the muscles of the anterior and posterior surfaces of the lower jaw.

- Vram (U. G.)** Le deformazioni artificiali della testa nell'arte. (A. p. l'Antrop., Firenze, 1909, XXXIX, 255-256.) V.

believes that many of the ancient terracottas of Greece, Asia Minor, Italy, etc., exhibiting deformations of the head, are not caricatures of living persons, or masks, but are faithful representations of subjects known to and seen by the artists,—probably racial characters, etc.

Wake (C. S.) Unity or plurality of mankind. (Amer. Antiq., Salem, Mass., 1910, xxxii, 65-76.) Discusses views of M. de Virey (1801) as revived by Dr G. A. Dorsey, Topinard, de Quatrefages, etc. W. concludes that "there is no evidence of serious importance of the dual origin of man; that is of the original division of mankind into white and black stocks."

Waldeyer (W.) Weitere Untersuchungen über den Processus retromastoideus. (Z. f. Ethnol., Berlin, 1910, xlii, 316-317.) Examination of 1224 skulls in various Berlin collections shows that the *P. r.* occurs in all races, but most frequently in Papuan skulls. "The Dreihöckerbild" occurs in 3 Alfuro skulls, and traces of it may be quite frequent in those of Europeans.

Wehrhan (K.) u. Olbrich (—) Die Freimaurerei im Volksglauben. Eine Umfrage. (Mitt. d. Verb. deutschen Ver. f. Volksk., 1909, Nr. 10, 14-20.) Questionnaire on folk-lore of Freemasonry; 17 questions and answers and résumés of 22 legends, etc., concerning Freemasonry.

Weinreich (O.) Zum Tod des grossen Pan. (A. f. Religsw., Lpzg., 1910, xiii, 467-473.) Cites 16 examples of the use of the ancient legend of the death of Pan (Bigot, 1549; Rabelais 1552; Noël du Fail, 1585; Gloss to Spenser's *Shepherds Calendar*, 1611; Abbé Auselm, 1722; Wieland; Pedro Sexia, 1542; Fischart, 1586; *Magica* (Eiselen, 1600; Remigii *Daemonologia*, 1693; Boissard, 1615; Pierre du Moulin, 1568-1658; Oudaans, 1664; Bishop Huet, 1679; A van Dale, 1683; Gottsched, etc.).

Weissenberg (S.) Der jüdische Typus. (Globus, Brnschw., 1910, xcvi, 309-311, 328-331, 13 figs.) Treats of "Jewish type."—Polish, Galician, South Russian, Russian, Caucasian, Tunisian, Jemenite, etc., are considered. According to Dr W., there exists, beside the European-Asiatic type an African type longer-headed with finer facial traits. The relation of this type

to the European and to the primitive Semitic is not yet determined. Dr W. holds that the genuine Semitic type has been preserved in its purity by the Jemenite Jews. The Jewish type is not merely and solely a product of environment.

Werner (A.) The evolution of agriculture. (J. Afric. Soc., Lond., 1910, ix, 401-415.) Review and critique of the views and theories of E. Hahn in his *Die Entstehung der wirtschaftlichen Arbeit* (1908) and *Die Entstehung der Pflugkultur* (1909). Miss W. notes that "all over the world the results of fuller investigations tend to show that the old 'three stages' theory is completely untenable." Collecting, not hunting, was in all probability the most primitive mode of gaining a living. Hahn sees the origin of work in the economic activity of women; the digging stick, with its magic associations, may be considered the ancestor of the conjurer's wand. Agriculture, invented by women, was largely left in their care since man thought it connected with child-birth, etc., as Rendel Harris and others have pointed out. Economic ignoring of women resulted from the change from hoe to plough culture. Ploughing, according to Dr Hahn, originated in a religious ceremony. The cart with wheels came from the "sacificial bowls or cauldrons mounted on rollers for greater ease in moving them about." There are many far-fetched things in Dr Hahn's books, but many brilliant ideas also.

Wetzel (G.) Ein neuer Apparat zur Aufstellung des Schädels für diagraphische Aufnahmen. (Korr. Bl. d. D. Ges. f. Anthropol., Brnschw., 1909, xl, 41-43, 2 figs.) Describes new diagraphic apparatus in which by using the inner surface only of the skull for fastening in position, all portions of the exterior are accessible for drawing.

Woodworth (R. S.) Racial differences in mental traits. (Science, N. Y., 1910, n. s., xxxi, 171-186.) Discusses powers of vision (essentially equal, myopia to be excluded, if native differences are to be determined), hearing (whites possibly superior; no clear superiority of savages), smell (special interests and training, as in the case of sight, account for any alleged superiority of the "lower" races), touch (little evidence; no general con-

clusion can be drawn; Papuans excell, Indian about same as whites), pain-sense (difference rather in conception of pain, or in understanding the test, than in pain-sense), color-sense (very much the same all over the world), "tapping-test" (no absolutely marked differences of importance), righthandedness (no marked racial differences), illusions and errors of judgment (same degree apparent in peoples of widely different cultures), "form-test" (when fair, no large differences, much overlapping), stage of culture as index of mental endowment (not an accurate measure of intelligence; greatest part of civilization of any generation is bequeathed to it, only its own productive increase can be laid to its credit), invention (spontaneous variation and previously acquired knowledge; size of group an important factor; accidental factors important as a prime cause of human progress, sexual selection or mating customs more important than natural selection), selection by migration, etc. The "illusory appearance of great racial differences" has been made too much of.

— The puzzle of color vocabularies. (Psychol. Bull., Baltimore, 1910, VII, 325-334.) Discusses the question of the relation of color-sense and color-vocabulary, with special reference to race, and particularly to primitive peoples, the civilized Englishman, etc. Absence of a color-name does not necessarily indicate absence of a sense for that color (some languages seem even devoid of conventional color-names). Where color serves as the mark of an important object, or condition of an object, a color name is most likely to develop.—"If cows had affected the blues and the greens, the history of color vocabularies would probably have been quite different." And "it is probably owing to the use of pigments that names for green and blue have become stereotypes in European languages."

Wright (E. B.) The relations of the great museums to the independent local investigator. (Rec. of Past, Wash., IX, 80-83, 1 fig.) Argues for assistance and encouragement for the local investigator both in research and publication. Great museums "keep their appropriations for their own family circle." Instances of valuable work

of investigators unconnected with institutions are given.

Zacharias (T.) Scheingeburt. (Z. d. Ver. f. Volksk., Berlin, 1910, XX, 141-181.) Treats of acts and ceremonies, symbolic performances, etc., in imitation of child-birth and its concomitants: Lifting from the ground, placing next to one's naked body or in one's clothes, passing through a dress, shirt, or other article of clothing, putting to the breast, laying in the bosom, in the lap, on the knees, etc., making pass or crawl through or handing through a door, window, opening of any kind (e. g. a hollow in a tree, wall, rock, etc.), passing through fire, water, etc., and other pseudo-genital and regenerative symbolism, particularly the Hindu "Hiranyagarbha rite" (pp. 159-167), or "re-birth through the golden cow"; creeping-through as a ceremony of purification, ordeal, test of chastity, etc. (pp. 167-180).

EUROPE

Alsberg (M.) Deutschtum und Volksbewegung in Österreich-Ungarn. (Globus, Brnischwg., 1910, xcvi, 360-362.) Treats of the German element in Austro-Hungary, the movement of races, etc. In Bohemia the German language-area has increased during the last decade; but in northern Moravia and western Austrian Silesia it has lost considerably. Fear from decrease in the surplus of births in the German area in the Empire is hardly justified,—it is the German towns lying in Slavic surrounding that are most affected here, not the German territories themselves.

Andree (R.) Ratschen, Klappern und das Verstummen der Karfreitagsglocken. (Z. d. Ver. f. Volksk., Berlin, 1910, XX, 250-264, 14 figs.) Treats of the silencing of bells and the use of noise-making apparatus, hand rattles and clappers of various sorts, larger instruments moved by handles, etc., in various parts of Protestant and Catholic Europe: German *Ratschen*, *Klappern*, etc., Roman and Neapolitan *trocola*, Spanish *matraca*, Greek *simandra*, French *claque*, etc. In Protestant lands the custom of muting the bells has declined, the "Ratschbuben" have disappeared in Easter week, but they are still remembered in song and story.

d'Andrian Werburg (—). L'anthropologie

- en Autriche-Hongrie. (Bull. Soc. d'Anthr. de Paris, 1910, vi^e s., 1, 345-352.) Report on state of anthropology in Austro-Hungary. Notes the numerous and successful investigations of the remains of prehistoric man,—at Krapina, Brünn, Predmost, Lautsch, etc., by Gorjanović-Kramberger, etc., investigations of the bronze age in Hungary at Velem-Sent-Vid; the anthropological activities centering in Cracow; the physical anthropological studies of Weisbach, Matiegka, etc.; the linguistic work of F. Müller, Miklosich, Tomaschek, Hunfalvy, etc.; African investigations of Holub, Paulitschke, etc.; the linguistic and ethnological labors of Father Schmidt, editor of *Anthropos* (founded in 1907); the extensive researches in folk-lore of all kinds (F. S. Krauss deserved mention here) in all parts of the Empire; the studies of the peasant-house by Bancalari, Meringer, Bünker, Murko, etc. A new journal, *Wörter und Sachen*, devoted to culture-history is shortly to appear.
- de Aranzadi (T.)** De la "covaia" en España. (Anthropos, St. Gabriel-Mödling, 1910, v, 775-778.) Argues that the absence of a native name for *covaia* in Basque is no proof of the non-existence of the custom itself and notes that in somewhat attenuated forms (father remains in bed for some time with mother and child, public presentation of child by father, etc.) actually exists to-day in certain parts of N. W. Spain, also in the Balearic is. In some cases the father keeps in the house for a week. According to Prof. de A. the *covaia* is no literary myth, as some have thought.
- L'attelage des boeufs par la tête est-il d'origine germanique? (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., x, 264-268, map.) Discusses the distribution of the various methods of yoking oxen,—by the neck or shoulders (Latin, Slav) and by the horns ("Teutonic," according to Braungart). It remains to be proved that the horn-yoke (e. g. Basque form) is really Teutonic. It may be "Alpine."
- Austin (G.)** A trip around Iceland. (So. Wknn., Hampton, Va., 1910, XXXIX, 539-545, 598-605, 9 figs.) Contains notes on schools, hospitals, churches, morals, dress and ornament, agriculture, fishing, politics, etc.
- Bardon (L.) et Bouyssonie (J. et A.)** La grotte Lacoste, près Brive, Corrèze. (R. de l'Éc. d'Anthr. de Paris, 1910, xx, 28-40, 60-71, 15 figs.) Treats of caves investigated in 1899, with descriptions of human artefacts found (borers of great variety and in great abundance, scrapers, flint flakes, and blades of various sorts, piercers, knives, etc.) In all 826 borers and 2,227 other specimens were found. The material gives the impression of "Aurignacian put to new uses." The cave belongs to the upper Aurignacian.
- Bartels (M.)** Deutsche Volkstrachten. (Z. d. Ver. f. Volksk., Berlin, 1910, xx, 241-249, 9 figs.) Treats of German folk-costume: Sachsen-Altenburg, Hamburg, Upper Bavaria, Hesse, Alsace, Württemberg, Baden, etc. Besides local and geographical groups, German folk-costumes can be divided otherwise, e. g. costumes of men and those of women (girls, married women, widows); everyday and holiday costumes; Sunday, evening, wedding costumes, etc.; costumes for various professions and occupations (shepherds and herdsmen of the Alps, fisherwomen of Cuxhaven, etc.). It is not true, as some have maintained, that there are really no German folk-costumes, what are thought such being merely retained court or patrician fashions of the 17th or 18th centuries. The "Museum für deutsche Volkstrachten und Erzeugnisse des Hausgewerbes," founded in Berlin in 1888 has thus a real *raison d'être*.
- Bates (W. N.)** Sculptures from Lake Nemi. (Univ. of Penn. Mus. J., Philo., 1910, 1, 30-33, 2 figs.) Notes on figures of Eros bending his bow and a youthful faun, the former doubtless inspired by the work of Praxiteles.
- Baudouin (M.)** Découverte, fouille et restauration d'une allée mégalithique sépulcrale avec cercles péritaphiques aux Tabernautes, à l'île d'Yeu, Vendée. (Bull. Soc. d'Anthr. de Paris, 1910, vi^e s., 1, 95-120, 2 pl., 4 figs.) Treats of the discovery, investigation and restoration of a megalithic "way" (sepulchral) with two pentaphic circles, in 1907 at Les Tabernautes, on the northwestern end of the island of Yeu in Vendée; history, geography, description and architectonic study, the peritaphic circles, etc., are discussed in detail. This covered

way belongs to the neolithic period, but was partly destroyed. Traces of peritaphic circles are all around it. The restoration was made as carefully and exactly as possible. Except a few chips of flints no prehistoric remains, bones, grave-gifts, etc., were found in the great cavity. From the covered way itself were obtained a number of pebbles, fragments of flint, a polished axe, etc. It seems that the entire contents of this neolithic tomb must have been removed and destroyed at the time of the first Christian settlement of the island.

Behrend (F.) Das Handschriftenarchiv der Deutschen Kommission der Königlich-Preussischen Akademie der Wissenschaften. (Z. d. V. f. Volksk., Berlin, 1910, XX, 321-322.) Notes that by the last report the collection contains 4000 descriptions of Mss. from all parts of Europe. These Mss. include much of value for the history of German folk-lore: Songs, charms and conjurations, riddles, folk-rhymes, etc. Examples are the German Ms. 333b of the National Library in Paris and Ms. XVIF3 of the University of Prague.

Benziger (J. C.) Das Brunner Bartli-spiel. (Schw. Arch. f. Volksk., Basel, 1909, XIII, 271-304.) Describes, with citations from two fragmentary texts the "Bartli-spiel," formerly (e. g. most of the 18th century) performed as a part of the carnival proceedings at Brunn. *Bartli* is evidently corrupted from the name of St. Bartolomäus, but is now merely a symbol of festivity. The personages appearing are such as occur often in older German comedies, etc. (captain, councillors, clerk, "harleking" and wife, ambassador, singers, dancers, etc.).

Biasutti (R.) L'attuale dibattito sulla cronologia del quaternario europeo. (A. p. l'Antrop., Firenze, 1909, XXXIX, 244-255, 1 fig.) Résumés and discusses data and theories concerning the quaternary chronology of Europe (Penck and Brückner, Boule, Hahne, Behlen, Rutot, Obermayer, Hoernes, Gorjanović-Kramberger, etc.) B.'s conclusions are: The Chellean with fauna of warm climate has not been shown to belong in the interglacial; the fauna of the cold climate (pachyderms, etc.) seems to have maintained itself from its first appearance without other interpolations of warm

fauna. The Achulean and Mousterian (where the warm fauna appears typically for the first time) come certainly before the last glacial (Würmian) and probably after the "maximum of the penultimate" (Rissian). The post-glacial age of the Upper Solutrean and the Magdalenian is recognized.

Bockenoogen (G. J.) Nederlandsche sprookjes uit de XVII de en het begin der XVIII de eeuw. (Volkskunde, Gent, 1910, XXI, 7-21.) Two tales "Van de boer die kon waarzeggen," and "Van de berzorgte Bruid."

Nederlandsche sprookjes en vertelsels. (Ibid., 76-78.) Two brief tales, "Hier is de tijd; waar is de man?" and "Men moet den duivel niet verzoeken," from North Holland.

Geparodieerde sermoenen. (Ibid., 101-111, 150-155.) Cites in whole or in part 11 mock-sermons in Dutch from works of the 17th and 18th centuries.

Bolte (A.) Zu dem christlichen Warnungsbriefe. (Z. d. Ver. f. Volksk., Berlin, 1910, XX, 319-321.) Cites a copy of "the Christian letter of warning," from a colored lithograph (ca. 1860) from Neuruppin, found in the village of Briesen near Cottbus. The pictures are worse and the verses changed a good deal. See *Kirchner (V.)*.

Neuere Sagenliteratur. (Ibid., 329-332.) Reviews and critiques of recent publications on folk-tales, etc. Böckel's *Die deutsche Volksage* (Lpzg., 1909), F. Ranke's *Die deutschen Volks-sagen* (München, 1909), Kühnau's *Schlesische Sagen* (Lpzg., 1910), de Cock and Teirlinck's *Brabantisch sagendoek* (Gent, 1909), F. Heinemann's *Sagen*, etc. (Bern, 1910), Nyrop's *Portids tegn og sange* (København, 1909), etc.

Die Sage von der erweckten Scheintoten. (Ibid., 353-381.) Well-documented study of the tale of the awakening of the apparently dead woman: The simpler form with the motif of the theft of the ring (the woman of Cologne, 1499 and parallel tales in Germany, France, Italy, etc.); the romantic form with the kiss-motif (Thomas of Chantimpré's tale ca. 1260; the tale of the Icelandic bishop Halldórsson, died 1339; the version in Boccaccio's *Filocolo*, and also in the *Decameron*; the Florentine legend in

the Tuscan poet A. Velletti concerning Ginevra degli Almieri, and other literary uses of this story; Bishop M. Bandello's version of 1554; numerous revampings and working over of the motif in Spanish, French, English, Dutch, German, Swedish, cited on pages 372-373. On pages 374-377 are given two versions (one prose, one in verse) of the legend, the first dating from the beginning of the 18th century in its origins. Besides the many European versions, Kirghiz, Chinese, American, and Hindu parallels exist in part or in whole. Dr B. considers the Greek tales of Chariton and Xenophon unrelated. The story grew up possibly about some real case of "burial alive."

— Neuere Arbeiten über das deutsche Volkslied. (Ibid., 404-411.) Reviews and critiques of recent publications concerning the German folk-song, periodical articles, books, etc. Among the most important works are: A. Daur's *Das alte deutsche Volkslied nach seinen festen Ausdrucksformen betrachtet* (Lpzg., 1909), K. Hennig's *Die geistliche Kontrafaktur im Jahrhundert der Reformation* (Halle, 1909), K. Bode's *Die Bearbeitung der Vorlagen in des Knaben Wunderhorn* (Berlin, 1909), W. Jürgensen's *Die Martinslieder* (Breslau, 1910), A. Hartmann's *Historische Lieder und Zeitgedichte* (2 Bde. München, 1910), J. P. Glock's *Badischer Liederhort* (Karlsruhe, 1910), S. Grollmund's *Volkslieder aus dem Kanton Solothurn* (Basel, 1910), G. Heeger und W. Wüst's *Volkslieder aus der Rheinpfalz* (Kaiserlautern, 1909), E. H. H. John's *Volkslieder und volkstümliche Lieder aus den sächsischen Erzgebirge* (Annaberg, 1909), J. Dillman's *Hauwücker Kinderlieder und Kinderreime* (Frankf. a. M., 1909), F. Schön's *Kinderlieder und Kinderspiele des Saarbrücker Landes* (Saarbrücken, 1909), M. Radczwill's *Singspiele* (Lpzg., 1908), G. Meyer's *Volksstämme* (Lpzg., 1909), H. Hesse, M. Lang and E. Strauss's *Der Lindenbaum: Deutsche Volkslieder* (Berlin, 1910), A. Bonus's *Deutsche Weihnacht, Spiel und Lied aus alter Zeit* (München, 1909), A. Nef's *Das Lied in der deutschen Schweiz* (Zürich, 1909).

— Das polnische Original des Liedes 'An der Weichsel gegen Osten' und das schwedische Lied, 'Spinn, spinn, Toch-

ter, mein.' (Ibid., 210-215.) Adds a fifth melody heard in 1861 in Stubendorf, in the Gross-Strehlitz district by P. Grossman (see *Oberschl. Heimat*, III, 208-210) and compared with the Swedish spinner's song, the melody of which is possibly Silesian.

— Das Ringlein sprang entzwei. (Ibid., 66-71.) Well-documented study of the line in Eichendorff's song "In einem kühlen Grunde" (1810). Bavarian, Silesian, French, Russian, Scottish, etc., parallels, etc., are cited and the significance of the "broken ring" considered.

— Eine Rätselsammlung aus dem Jahre 1644. (Ibid., 81-83.) Cites 26 riddles in German from a fly-leaf printed at Bäle in 1644.

— Neuere Märchenliteratur. (Ibid., 91-100.) Reviews and critiques on recent Märchen literature. Among the chief contributions are: Gerould's *The Grateful Dead* (Lond., 1908), v. Sydow's *Teß Spinnsgagor* (Stockholm, 1909), Schuster's *Griseldis in der französischen Literatur* (Tübingen, 1909), Dähnhardt's *Naturgeschichtliche Volksmärchen* (2 Bde. Lpzg., 1909), Jegerlehner's *Am Herdfeuer der Sennen* (Bern, 1908), and *Sagen aus dem Unterwalden* (Basel, 1909), Schiller's *Schlesische Volksmärchen* (Breslau, 1907), Knoop's *Ostmarkische Sagen*, etc. (Lissa, 1909), Konrad's *Neues Märchenbuch* (Lissa, 1906), Behrend's *Märchenschätze* (Danzig, 1908), Baltus's *Märchen aus Ostpreussen* (Kattowitz, 1907), Wisser's *Wat Grotmoder vertelt* (Jena, 1909), v. Harten u. Henniger's *Niedersächsische Volksmärchen und Scheldneke* (Bremen, 1908), Polsterer's *Futilitates* (Wien, 1908), Leroy's *Oudslaamsche reuzels en vertellingen* (Ieper, 1908), Asbjørnsen u. Moe's *Norwegische Volksmärchen* (Berlin, 1908), Gallot et Ceramons' *Contes licencieux de Toulouse et de l'Aquitaine* (Paris, 1907), Grisanti's *Usi, credenze e racconti popolari di Isello* (Palermo, 1909), Smith's *Ancient Tales and Folklore of Japan* (Lond., 1908), Schönhärl's *Volkskundliches aus Togo* (Dresden, 1909), Bourhill and Drake's *Fairy-tales from South Africa* (Lond., 1908), Jones's *Fox texts* (Londen, 1907), Strehlow's *Mythen, Sagen und Märchen des Aranda-Stammes* (Frankf. a. M., 1907). The periodical literature of the subject is also well reviewed.

— Bilderbogen des 16. und 17. Jahrhun-

deris. (Ibid., 182-202.) Treats of Nos. 11-16 of illustrated fly-leaves of the 16th and 17th centuries: A recipe for bad wives, Punishment of carousing husbands, Land of Cocalgne, Priest-hunting, Ship of fools, etc. At pages 195-202 is a list of 90 fly-leaves published by Paul Fürst of Nürnberg and his widow 1638-1696.

Bosson (Mrs G. C. Jr.) Notes on Normandy. (Nat. Geogr. Mag., Wash., 1910, XXI, 775-782, 5 figs.) Treats of Caen, Falaise (birthplace of William the Conqueror), Dinan (dating from Roman times), Mont Saint Michel, the fast-disappearing Breton costumes (p. 779), etc.

Bourgeois (H.) Eine baskische Roland-sage. (Z. d. Ver. f. Volksk., Berlin, 1910, XX, 213-214.) Notes on a Basque "tale of Roland" from the Soule country in the French Pyrenees, not so far from Roncevaux. The hero of this Basque legend, however, resembles more Gargantua, or Kalewipoeg, the Estonian national hero; he is a sort of Hercules (there is a Soule proverb, *Errolan bezain askar*, "strong, as Roland"). In this region also is a "Roland's rock," etc.

Bovil (W. B. F.) Some Servian folk-tales and songs. (Oxf. & Cambr. Rev., Lond., 1909, No. 8, 18-31.) Discusses characteristics (naturalness of poetry, cheerfulness or "a serene and cheerful transparency"; meter unrhymed trochaic), and gives English versions of several tales (How the prince found a wife; The forgiven sons; The obedient son).

Brandenburg (E.) Italische Untersuchungen. (R. d. Ét. Ethnogr. et Sociol., Paris, 1909, II, 321-344, 25 figs.) Gives results of Dr B.'s investigations, in the summer of 1909, in the caves, etc., in the valley of the Tiber (up from Rome) and its tributaries: In the region of Due Ponte, Villa Spada, Prima Porta, Civita Castellana (especially), ancient Faleria, etc.; also the large caves of the Alban lake; and steps and other works in the solid rock, etc., of these regions. The passages, niches, steps, walls, etc., of these "cult-caves" and the other places in question are compared with the corresponding objects in the "cave-dwelling" regions of Asia-Minor. B. thinks it probable that the ideas connected with these cult-objects are of eastern origin. Here, as in Etruscan

art proper, are to be found a whole series of Asia Minor forms, etc., on Italian soil. These passages evidently served not one but various ends. Dr B. is of opinion that many "steps" are nothing more than conventionalized or abbreviated figures of a sitting deity. The Palatine and the Tarpeian rock were originally, according to Dr B., *kalehs*, to use the Turkish word introduced by Perrot.

Breuil (H.) Sur la présence d'éolithes à la base de l'éocène parisien. (L'Anthropologie, Paris, 1910, XXI, 385-408, 77 figs.) Discusses the question of the existence of eoliths at the base of the Parisian eocene, the sands of Bracheux (Thanetian) de Belle-Aassise, etc. These "eocene eoliths" are represented by cylindrical pieces, *rognois* of all sorts, irregular fragments, fragments with percussion bulbs, etc. These "eoliths" are all probably of natural formation and M. l'Abbé B. thinks criterion of distinction between real and "pseudo-eoliths" does not yet exist.

— Études de morphologie paléolithique. I. La transition du moustérien vers l'aurignacien à l'abri Audi (Dordogne) et au Moustier. (R. de l'Éc. d'Anthr. de Paris, 1909, XIX, 320-340, 17 figs.) Discusses the transition in flint implements ("coups-de-poing," discs, strikers, points, incurved points, "awls," notches, scrapers, borers, etc.), as exemplified particularly at the rock-shelter of Audi and also at Le Moustier, from the Mousterian to the Aurignacian type.

Brückner (A.) Neuere Arbeiten zur slavischen Volkskunde. 1. Polnisch und Böhmisches. (Z. d. Ver. f. Volksk., Berlin, 1910, XX, 215-225.) Reviews and critiques of recent publications concerning Polish and Bohemian folklore (periodical literature, books, etc.). The most important works include Dr P. Dabowski's book on Polish private law, *Prawo prywatne polskie* (Lemberg, 1910), A. Grabowski's recollections, edited by Prof. S. Estreicher *Wspomnienia* (2 vols. Cracow, 1909); Prof. Zibot's *Markoli a Nevim v literaturě staročeské* (Prag, 1909) and several other publications, C. Holas's *České národní písně a tance* (Prag, 1908) treating of Bohemian folk-songs and dances, Prof. V. Flajšhans's collection of Bohemian proverbs, *Česká přísloví* (Prag, 1909-1910), L. Niederle's *Her-*

- kunft und Anfänge der Südslaven* (Prag, 1910), etc.
- Brünner** (K.) *Bauerntöpferei und volkstümliche Fayencen*. (Ibid., 265-289, 103 figs.) Treats of peasant ceramics and folk-fayences as represented in the Berlin Museum, by German specimens belonging to the 18th and 19th centuries: So-called "Jute" or "Tatar" pots (made without wheel); "Cassube" pottery (retention of Old Slavonic technique and form); Lübeck "Mülläpfen"; pottery for offerings at shrines, etc.; pottery for baking articles used in festivals, etc.; pottery with salt and lead glazing and coloring, etc., sieve-vessels; night and funeral lamps. Colored and ornamented glazed wares: Marburg, Bürgel (near Jena), Bunzlau (Silesia), Heimbürg (near Thun), Langnau (Bern), Offenheim (Alsace), Hundham (Bavaria), Tirol, Bohemia, Rombliten (E. Prussia), Mecklenburg, Schleswig-Holstein, Braunschweig, etc. The Museum's "fayence" specimens are from the Spreewald, Welzacker, Mönchgut, Schleswig-Holstein, etc.; also peasant "fayences" with tin glazing on both sides from Kellinghausen (Holstein), Delft, Lusatia, Alsace, Bavaria-Austria, etc.
- Burne** (C. S.) Presidential address: The value of European folk-lore in the history of culture. (Folk-lore, Lond., 1910, XXI, 14-41.) Notes the importance and interest of children's games as exemplifying "survival in culture," the need of studying differences as well as likenesses and similarities (cf. the changes in the observation of "Garland Day"), the character of the folk-customs at Castleton in the Peak of Derbyshire on May-Day, etc., and oft be "Horn Dance" at Abbot's Bromley, Staffordshire (the Monday after Sept. 4, yearly) the "Squirrel Hunt" on Good Friday in Shervage Wood on the slope of the Quantock Hills and a similar performance at the "November Wake" by Duffield men in Kedleston Park, the septennial "Whitsuntide Ale" held at the entrance to Blenheim Park, etc. According to Miss B. "European folklore is the missing link, the bridge over the gulf, between savagery on the one side and culture on the other," and "now we need to study European survivals to understand the developments of savage customs, just as thirty years ago we studied savage customs to explain European survivals."
- Busse** (H.) *Hocker- und Brandgräber, sowie Wohngruben auf dem grossen Reiherwerder im Tegelersee, Kreis Nieder-Barnim*. (Z. f. Ethnol., Berlin, 1910, XLII, 598-600.) Notes on burial-places, hut-pits, etc., on the large Reiherwerder Id. in the Tegel lake. Urn-burial with cremation, etc. The "station" belonged probably to a Teutonic people of about 1000-1400 B. C. This paper will appear in full in the *Prähistorische Zeitschrift*.
- Caine** (W.) The guignols of the Luxembourg. (Oxf. & Cambr. Rev., Lond., 1910, No. 10, 135-148.) Notes on the théâtre Guignol, etc.
- Cameron** (M. L.) The dragon of La Trinità: an Italian folk-tale. (Folk-Lore, Lond., 1910, XXI, 349-350.) Tale told by a charcoal-burner in a Tuscan roadside inn at Le Bagnore on the edge of the great forest on the slopes of Monte Amiata concerning the jawbone kept in "the lonely little Franciscan Friary of La Trinità up miles of stony mule-track on the slopes of Amiata." The dragon was killed and beheaded by the Duke of Sforza.
- Camus** (P.) Note sur la carie dentaire à l'époque néolithique. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., t. 136-141, map.) Discusses the distribution of dental caries (maximum in regions of high stature and vice-versa) in France, according to the map of Magitot based on 25,918 recruits (1831-1849) rejected out of 3,295,202 for faulty dentition, in comparison with the distribution of neolithic peoples. Dental caries was much less frequent in prehistoric times, but the tall dolichocephalic blonds were more affected than the shorter brachycephals. In this the maps of ancient and modern times would agree.
- Cannington** (M. E.) A medieval earthwork in Wiltshire. (Man, Lond., 1910, x, 7-13, 4 figs.) Describes a bank and ditch or valley entrenchment about 4 miles north-east of Devizes. Inside the larger enclosure is a smaller one, both of the same source. The relics found (pottery, etc.) indicate that the earthwork is neither prehistoric nor Roman, but dates from between the 12th and the 16th centuries.
- Cantacuzène** (G.) Contribution à la craniologie des Romains anciens. (L'

Anthropologie, Paris, 1910, XXI, 55-74, 4 figs.) Treats, with measurements, of 11 skulls from the ancient Roman necropolis of Corneto near Civitavecchia (6 male, 5 female). Average cranial capacity of males 1584 cc., females 1268; cephalic indices, males 78.8 females 79.13. The higher cranial capacity here indicated Prince C. attributes to mixture with the Etruscans; also the dolichocephaly or subdolichocephaly of 4 skulls. The brachycephalic element is considered Ligurian. The ancient Roman skull is mesati-cephalic, low, and of less cranial capacity than the Etruscan.

Capitan (L.) et Peyrony (—). Deux squelettes humains au milieu de foyers de l'époque moustérienne. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., 1, 48-53, 1 fig.) Describes the finds near Surlat (skull of child of 6 and other bones of man and animals, Mousterian flints, etc.) and near Bugue (skeletons in rock-shelter at important prehistoric station of Ferrasserie, Dordogne) of human remains of Mousterian locus. The adult skeleton was photographed immediately on exhumation and before being manipulated.—the oldest skeleton to be so treated.

Deux squelettes humains au milieu de foyers de l'époque moustérienne. (R. de l'Éc. d'Anthr. de Paris, 1909, XIX, 402-409, 3 figs.) Describes finding of a human skeleton of the Mousterian epoch in a cave at Pech de l'Aze near Surlat, and another in the prehistoric deposit of La Ferrassie, near Bugue (Dordogne), the second, with more detail. A full account is to be communicated to the Académie des Inscriptions.

Carstens (H.) Volksglauben und Volksmeinungen aus Schleswig-Holstein. (Z. d. Ver. f. Volksk., Berlin, 1910, XX, 382-387.) Cites from various parts of Schleswig-Holstein 70 items about luck and ill-luck, 24 about dreams, 12 about sorcery, and 43 about premonitions, the devil, and spirits.

Chantre (E.) L'anthropologie à Lyon, 1878-1908. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., 1, 365-370.) Treats of laboratory, ethnographic museum, instruction (place in program of municipal courses in 1880), Anthropological Society (since 1881), etc. The Anthropological Society has published 27 volumes; the books in its library

number nearly 5,000. The lectures in anthropology, carried on during 1878-1908 by E. Chantre are to be continued by M. Lucien Mayet, one of his most distinguished pupils. At Lyons anthropology, it ought to be added, owes all to M. Chantre.

Clark (C. U.) Romantic Spain. (Nat. Geogr. Mag., Wash., 1910, XXI, 187-215, 41 figs.) Contains notes on agriculture and pastoral life, architecture, Moorish types, activities of people. Figure on p. 190 shows "Iberian" ox-yoke.

Corner (F.) et Raymond (P.) Le crâne de Galley Hill. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., 1, 487-497.) Treats of the Galley Hill (Kent) skull, discovered in 1888 and much discussed since 1895. Accepted as quaternary in England, much doubt of this is expressed in France. According to C. and R. this skull forms a link between the race of Neandertal and that of Cro-Magnon, in which respect it is closely related to the skull of Brün. In the discussion Manouvrier stated his belief that the Galley Hill skull is nearer to the Cro-Magnon than to the Neandertal; M. Fraipont considered it different from the Neandertal, the Spy and the Chapelle-aux-Saints skulls; Hervé and A. de Mortillet doubted the Neandertaloid characters; Rutot repeated his former opinion,—if genuine, it is the first example known of paleolithic man (Strepyian) of the eolithic age; Mochi thought the affiliations were Australian.

Corso (R.) Amuleti contemporanei Calabresi. (Rev. des Ét. Ethnogr. et Sociol., Paris, 1909, II, 250-257.) Treats of modern Calabrian amulets: personal (evil eye, devil, etc.), house (sign of the *genius domi*, etc.), amulets protective of useful animals and plants. The Calabrian amulets may be classified thus: zoological amulets (totem, medicinal), magico-religious amulets (pagan, Christian).

Corzi (E.) La vendetta del sangue nelle Montagne dell'Alta Albania. (Anthropos, St. Gabriel-Mödling, 1910, V, 654-687.) Treats with some detail of the blood-vendetta in the mountains of Upper Albania, past and present. For the Albanian the vendetta is idealized almost into a religious and civil duty. It is not limited to the offender alone, but includes his family and group

(*silazni*, phratry). In an appendix (pp. 681-687) are given texts and translations of several funeral songs referring to victims of the vendetta.

Malattie, morti, funerali nelle Montagne d'Albania (Ibid., IV, 1909, 903-918.) Treats of diseases (syphilis, pellagra, tuberculosis, etc., cutaneous troubles, small-pox, contagious diseases; medicine and antidotes), death and burial, funeral-songs, etc., mourning-customs, funeral-rites, burial-ground, etc.

Curtiss (A.) Majestic Trier. (Rec. of Past, Wash., 1910, IX, 235-240, 4 figs.) Notes on the "grandest and most imposing Roman remains of Germany, and, indeed, of all northern Europe." Porta Nigra, Roman palace, amphitheater, etc. Also the cathedral, "the most important example of pre-Carolingian building in Germany" (Lübke).

Czekanowski (J.) Zur Differentialdiagnose der Neandertalgruppe. (Korr.-Bl. d. D. Ges. f. Anthrop., Brnschw., 1909, XL., 44-47, 1 fig.) From consideration of differences in measurements (average of 27 in Neandertal and Brūx is 7.301 mm.), C. concludes that the "Neandertal group" is not unitary,—one group includes Spy, Krapina, Neandertal, Gibraltar; a second, Galley Hill, Brūnn, Brūx, Egisheim, and Nowosiolka; the Canstatt skull is isolated but perhaps related to the second group; the skull of *Pithecanthropus* departs from both, but is relatively nearer the Neandertal.

Déchelette (J.) Note sur les influences égéennes au Caucase. (L'Anthropologie, Paris, 1910, XXI, 425-434, 4 figs.) Treats of Egean influences in the Caucasus, suggested by the resemblances between the bronze poniards, swords, etc., of Lenkoran and similar objects from the Egean-Mycenean region—poniards of the "Cypriot" type; poniards ornamented with a crescent at the top of the blade; narrow, short-tanged poniards, with rivet-hole at top; short swords with large semi-circular handles, etc. D. concludes that "these Asiatic specimens are derived either from Egean models or from prototypes (in some yet unexplored region) common to both Caucasian and Egean art." In this matter importance attaches to the yet unexplored necropolis of the Caucasus, Armenia, Siberia, etc.

Deniker (J.) La pigmentation en Europe. Communication préliminaire. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., I, 509-517, map.) Treats of the distribution of brunetism in Europe (there are three "zones,"—blond, chestnut, brown; in each "zone" there are "islets" of the other colors). On the map from north to south the "zones" are, less than 17 per cent. brown, from 17 to 30 per cent., more than 30 per cent. Deniker recognizes two blond, European races (Nordic or *Homo Europaeus*; Oriental, short, sub-brachycephalic) and 4 brunette races (Occidental or *H. Alpinus*; Iberian or *H. Meridionalis*; Atlanto-Mediterranean, sub-dolichocephalic; Adriatic, brachycephalic).

La taille en Europe. La taille des populations Turco-tatars et des Caucasiens. (Ibid., 66-77.) Résumés recent investigations of the stature of the Turco-tatars of Europe (Chuvashes, Bashkirs, Metchcheriaks, Tatars of the Volga, Crimea and Astrakhan, Kirghiz, Osmanli Turks, Mountain Tatars of Caucasus, Turkmen, Karachai, Circassians, Lesghians, Georgians, Imereians, Mingrelians, Sunnetians, Ossetes; Tates, Caucasian and Persian Kurds, Armenians of the Caucasus, Kaimucks of Astrakhan. Good bibliography (73-77). The forest Bashkirs seem somewhat taller than those of the steppes; also less brachycephalic. A curious group are the Lithuanian Tatars, or Muslims, who are Mohammedans but all speak Polish or Lithuanian (a mixture of Volga and Nogai Tatars).

Diehl (—). Zur Entstehungsgeschichte der Hessen-Darmstädtischen Verordnung gegen das "Eieraufheben" bei Hochzeiten vom 9. September, 1695. (Hess. Bl. f. Volksk., Lpzg., 1910, IX, 190-195.) Gives, pp. 192-195, the record (July 30, 1695, at Giessen) of the evidence of 4 witnesses concerning the happenings at a double wedding, including the "Eyerufheben," leading to the issue of an edict against such practices. On pp. 190-191 is a copy of the edict. The exact origin of the edict is now known through Dr D.'s discovery of these documents.

Dorier (A.) Volkslieder aus Tirol. (Z. d. Ver. f. Volksk., Berlin, 1910, XX, 306-317.) Dialect texts of Nos. 14-34 of Tirolese folk-songs. No. 21 is "The 7 ages of Man"; No. 24 children's

rimes; Nos. 23-30 "Star-singers" or "Klöpfellieder."

Drechaler (P.) Märchen und Sagen aus Oberschlesien. (Mitt. d. schles. Ges. f. Volksk., Breslau, 1909, XI, 94-98.) Literary German texts of 8 Upper Silesian tales: Adam and the horse, God as debtor, Why the Jews have crooked noses, The child walled-up alive, The golden duck at Tost, The soul as white-shining hay, The otters and the otter-king, The angry mermaid.

Scherz- und Ernsthaftes über besondere Zusammensetzungen mit *aus-* und *be-* im Schlessischen. (Ibid., 99-103.) Treats of such Silesian terms in *aus-* and *be-* as sich ausdoktern, sich angusteln, sich ausgejungefern, sich ausbürgermeistern; ausprahlen, aushaben, ausmachen, austanzen, ausregnen; beablen, bemuttern, bekochlöffeln, beklunkern; betulich, betusam, beschärjen, bekumpabletäten, beweltsahn, bejunkern, etc.

Ein alter Vertragsbrauch. (Ibid., 208-210.) Notes on *stupfen* (*tipfen*), or "touching fingers," when two drink a glass of liquor together, a relic of the old custom of "hand striking." In the 17th century *eintipfen*, dipping the finger in the beer, etc., was in practice among peasants, etc.

Oberschlesisches vom Wassermann. (Ibid., 212-214.) Cites tale of the appearance of the "water man" with red cap and green eyes on the bridge over a brook in Alt-Zabrze.

Dunn (F. S.) A study in Roman coins of the Empire. (Rec. of Past, Wash., 1910, IX, 31-52, 2 pl.) Treats of coins of the Julian-Claudian era, 27 B. C.-68 A.D. (Augustus, Tiberius, Caligula, Nero), Flavian dynasty 78-96 A.D. (Titus, Domitian), the Antonines, 98-117 A.D. (Trajan), illustrated by a dozen pieces.

Dutt (W. A.) Lynchets. (Man, Lond., 1910, X, 104-105.) Compares the "narrow terraces generally known as *lynchets*," believed by some to be relics of a particular system of hillside cultivation dating from neolithic times, with the stone-walled terraces on the Kucha and Uba mountains in the Kikuyu country of Africa, as described by Capt. C. H. Stigand in his *To Abyssinia through an Unknown Land*. These terraces are used for planting crops.

Ebert (M.) Über eine Ustrina auf einem bronzzeitlichen Friedhofe. (Z.

f. Ethnol., Berlin, 1909, 940-946, 2 figs.) Treats of an *ustrina*, or place of incineration of human bodies, discovered in connection with a burial-place of the bronze-age near the village of Cosilenzen, in the district of Liebenwerda. Upon the wooden substructure the pyre was, doubtless, built up, with the corpse on top. In the discussion some differences of opinion as to the nature of these remains developed.

Een Museum voor Volkskunde te Gent. (Volkskunde, Gent, 1910, XXI, 40-45.) Proposes the establishment in Ghent of a Folk-Lore Museum, such as has already been instituted in Antwerp and Brussels.

Favraud (A.) Une défense d'*Elephas antiquus* portant des traces de travail humain de l'époque achuléenne, trouvée aux Quatre-Chemins, commune du Gond-Pontouvre, près d'Angoulême. (R. de l'Éc. d'Anth. de Paris, 1910, XX, 243-247, 1 fig.) Describes finding of piece of tusk of *Elephas antiquus* with marks of human origin (attempts to cut), belonging to the Achulean period, as indicated by other remains. This find indicates that the art of using bone, ivory, etc., was already developed in Achulean times.

Fenwick (N. P., Jr.) A note on four Icelandic cairns. (Man, Lond., 1910, X, 22.) Brief references to four *Beinakerling*, or "crone of bones," at Kaldidalur, near Arnavatn, near Kriavik, etc. The curious custom exists of those who ride past writing a stanza on a scrap of paper, rolling it up and, after putting it into the hollow bone of a pony (these bones lie scattered about), leaving it among the stones of the cairn to be found by the next traveler.

Fischer (E.) Die Küche der rumänischen Bauern. (A. f. Anthrop., Brnschw., 1909, N. F., VIII, 246-248.) Notes on the kitchen and cooking of the Rumanian peasant,—vegetables and plants, baking and roasting, oils and grease, sour substances, drinks, milk, flesh food (at festivals), fast-days (there are 163), dainties, etc. In Rumania, beneath the upmost stratum, according to Dr F., we find "everywhere circumstances that were quite common in the later Stone age."

Die thrakische Grundlage im Rumänischen. (Z. f. Ethnol., Berlin, 1910, XLII, 311-315.) Seeks to show

from linguistic, folk-lore and sociological evidence that the essential basis of the Rumanian people is Thracian (there is a certain "unity in the internal speechform of the Balkan peoples"). Folk-lore, proverbs, riddles, songs, Märchen, superstition, folk-medicine, dress and ornament, food and its preparation, social customs, and institutions indicate such a unity. The *obiceiul pamantului* or old Rumanian customary law "goes right back to Thracian."

Sind die Rumänen, anthropologisch betrachtet, Romanen? (Ibid., 1909, xli, 847-849.) Argues from the unusually high birth and death rate that the Rumanians are not Romanic, —linguistic, genealogical, prehistoric, toponymic, social and historical investigations point the same way. According to F., the Rumanians are a remarkably mixed people (Thracio-Romanic and Slavs).

Flechner-Lobach (A.) Die Volkskunst in Schweden. (Globus, Brunschwg., 1910, xcvi, 174-177.) Treats of folk-art in Sweden, based on personal studies in museums, etc., and on Montelius's *Kulturgegeschichte Schwedens*, etc. Ancient Scandinavian art (already finely developed in prehistoric times, with, perhaps, notable foreign influences), the effect of the richness of this region in woods leading to development in wood-work, influence of the environment on motifs, basketry, etc., feeling for color, patterns, weaving and embroidery, folk-dress, etc. The influence of the "Handarbetets 'Vänner,' etc., is noted.

Frauer (E.) Das österreichische Küstenland an der Schwelle der Geschichte. (Ibid., 1910, xcvi, 183-186.) Treats of the coast of Austria at the beginning of the historical period, and the peoples inhabiting that region. By means of etymologies of place-names the author seeks to show that the ancient Istrians were not Illyrian, Graeco-Thracian or Celtic, but Semitic; —the Colchians, or Moschoi, were the Mesech (properly Mosoch) of the Bible.

Freire-Marreco (B.) The West Riding Teachers' Anthropological Society. (Folk-Lore, Lond., 1910, xxi, 103-104.) The practical work of this Society has been in the direction of folk-lore, a beginning having been made in the collection of local singing-games. The

"Vacation Course" for teachers at Scarborough in 1910 will include "a short course of lectures on some branch of anthropology."

Fris (V.) Le folk-lore gantois. (Volkskunde, Gent, 1910, xxi, 83-86.) Notes on Ghent folk-lore (the legend of the *spookhuis* (haunted house) of the Jodenstraat; names of Supreme Being, *Cies-ous-Heere*, terms like *Godsklop*, a "decisive blow," etc.; processions. Reprinted from *Gand XX^e siècle* for Jan. 31, 1910, pp. 5-6.

Gaster (M.) English charms of the seventeenth century. (Folk-Lore, Lond., 1910, xxi, 375-378, 4 fgs.) Reproduces from the Ms. (1693-5) of a certain Thomas Parker charms to "make a woman follow thee," "to know a woman's counsel," to gain one's wish, to tell a thief, to fear no one, to win homage from all, a blessing, etc.

Gebhardt (—) Zimmermannspruch. (Mitt. d. schles. Ges. f. Volksk., Breslau, 1909, xi, 210-212.) Gives the text (in verse) of the carpenter's "speech" at the completion of a new house, as written down by the father of the author (a teacher at Cantersdorf, in the district of Brieg).

Gengler (J.) Die Schwalben im Volks-glauben. (Globus, Brunschwg., 1910, xcvi, 31-32.) Items of folk-lore concerning the swallow: bringer of spring, holy and not to be harmed (Spain, S. Germany, England, Ireland), bringer of luck (swallows in stable, Franconia and Thuringia; *martenica* in Macedonia), medicines prepared from swallows, interpretation of swallow's song (Germany), migration of the swallow (legends, etc.).

Das Schnupfen im Bayerischen Wald. (Ibid., 91-94, 3 fgs.) Treats of snuff-taking in the Bavarian Forest. —the "national tobacco" is "der Schmalzer," colloquially, "Gschmei," or "Schmal." Women and girls do not take snuff, but men and youths and even boys; and all classes of peasants and townsmen, teachers and clergy. "Snuff-glasses" are of various sorts. The habit is said to have sprung up at the end of the Thirty Years' War, and to have been introduced from France.

van Gennep (A.) Die neueren Ausgrabungen in der Stadt Alesia. (Ibid., 165-169, 6 fgs.) Résumés recent literature concerning the exploration of Alesia, the Gallic city on Mont

- Auxois. There is now a monthly *Pro Alesia*, published in Paris. The name *Alesia*, the images of deities found (Ucuetis, Bergusia, the so-called "Mothers," etc.), bronze artefacts, "horse-shoes," etc., are considered. The archeology of Alesia is now illustrated by Alesian post-cards.
- Giovannozzi (U.) *Brachyplaticefali e brachypsicefali nell'Europa*. (A. p. l'Antrop., Firenze, 1909, XXXIX, 62-114, 3 figs.) Discusses the question of brachy-platycephaly and brachy-hypsicephaly in Europe. Descriptions and measurements of 6 Greek, 5 Albanian, 3 Rumanian skulls (comparison with studies of Virchow, Nicolucci, Pittard, Wateff, Zampa, Weisbach). Also of 25 Tirolese, compared with results of Vram, etc. In Europe, according to Dr G., there are two varieties of brachycephaly, with different geographical distribution and distinguished by the height of the cranium. The first of these, the hypsicephalic Armenoid (akin to the brachycephals of Asia Minor), occupies a great part of the Balkan peninsula, pushing north at least as far as Hungary, and mingling in the west with the second variety, the platycephalic Mongoloid, which has one of its centers in the regions of the eastern Alps especially in Carinthia and the Tirol.
- Giuffrida-Ruggieri (V.) *Nuove addizioni al tipo di Galley-Hill e l'antichità della brachicefalia secondo il Rutot*. (Ibid., 1910, XI, 255-263, 2 figs.) Discusses the crania of Brün and Engla, which G.-R., with Birkner adds to the Galley-Hill type, making, however, some differences in the points of resemblance, etc. The Aurignac skull also resembles much that of Galley Hill, and that of Clichy, but hardly Rutot's Grenelle cranium. The remote antiquity (Kraplna, Grenelle, Mugem) of brachycephaly is now abundantly proved. G.-R. repeats his belief that the human race was "precociously autonomous" in its evolution and no well-differentiated anthropoid forms are in the ascendant line.
- Godley (M.) "Quare things." (Ninet, Cent., Lond., 1910, 175-178.) Notes on folk-lore of the "banshee," etc.
- Greenwell (—) and Gatty (R. A.) *The pit-dwellings at Holderness*. (Man, Lond., 1910, X, 86-90, 2 figs.) Describes dwellings, contents, etc., according to Canon G., with additional data from Rev. R. A. Gatty, who was present with Prof. Boyd Dawkins at the opening of the Rolston pit (M. Morfitt, the original discoverer, has now opened some 30 pits). In the Rolston pit were discovered: fire-place *in situ*, broken cooking-pot, broken bones of domestic animals (also of *Bos longifrons*), heavy stone pounders, rude knives and flint flakes, etc. Other things found in these pits are red pigment (made from burnt clay, pottery, etc. These pits date from the early neolithic period; after they had been filled in with a deposit of surface soil, the ordinary neolithic man lived over them.
- Gross (V.) *Une station néolithique terrestre dans le Canton du Vaud*. (Z. f. Ethnol., Berlin, 1909, XLI, 963-965.) Brief account of the discovery of the remains of huts (with human and animal bones, flints, bone and horn implements, conical slate objects like those of Locras, fragments of pottery, etc.), at the village of Chénée-Pâquier, about 10 kil, from Lake Neuchâtel. These land-dwellings were contemporary with the lake-dwellings of the neolithic period,—the discovery of such is unique in Switzerland.
- Grosse (H.) *Der Rundwall von Möllendorf im Kreise Luckau*. (Ibid., 918-940, 12 figs.) Treats of the fortification known as the "Rundwall" at Möllendorf. The old accounts, present condition, older finds, situation and topography, newer finds (whetstones, pieces of clay objects, iron knife, flints, stones for querns or hand-mills, pottery fragments, etc.) are considered. There was probably a Slavonic "station" here, where pottery was manufactured, etc., the "station" or "work-place" being later than the throwing up of the wall,—the oldest culture represented being also Slavonic.
- Gusinde (K.) *Von Land und Leuten in Spanien*. (Mitt. d. schles. Ges. f. Volksk., Breslau, 1910, XII, 1-40.) Treats of Spain and the Spaniards. A land of contrasts, geographically and ethnologically: Catalans (peculiar and apart), Basques (non-Indogermans), Asturians (freedom-loving like the Basques), Galicians ("poor devils"), Aragonese (thick-headed, bigoted, industrious), Castilians (still full of *grandesa*), Andalusians (mobile and imaginative, full of life; Moorish in-

fluence in speech, etc., distinctly perceptible here), Gipsies (a people by themselves), etc. The isolation of Spain (the Pyrenees are a sort of "Chinese wall") has led to misconceptions of its nature, etc. Politics, industry, education (discipline and order lacking everywhere), religion (land full of cloisters; feasts, festivals), temperament (easily aroused and led into wild passion; bull-fights; tendency to cruelty, touches of savagery, etc.; courtesy toward women), poverty and beggars (regularly organized), child-like love of nature unknown, home and domestic life, democratic pride (use of the title *Don*, etc., orders numerous and easily obtained), pride in the great past.

Hartland (E. S.) The cult of executed criminals at Palermo. (Folk-Lore, Lond., 1910, XXI, 168-179, 3 pl.) Treats of the "Chiesa delle Anime dei Corpi Decollati" (originally the church of the Madonna del Fiume or Madonna del Ponte) near the bridge on the Oreto, south of Palermo, and the cult of "beheaded" (criminals),—the special days of devotion are Monday and Friday, the pilgrims chiefly women. The graveyard is filled with the tombs of criminals of rank. The special center of the cult is a small side-chapel, filled with votive offerings (legs, heads, feet, babies, etc.) of wax. In and about the church are representations of criminals in Purgatory, accidents, murders, etc. Paintings of the *decolati* appear also on the characteristic Sicilian carts. Veneration of the souls of departed malefactors is known all over the island. On page 173 is given a specimen prayer.

Hauffen (A.) Geschichte der deutschen Volkskunde. (Z. d. Ver. f. Volksk., Berlin, 1910, XX, 1-17, 129-141, 290-306.) Sketches the history of German folk-lore studies from the time of Tacitus to the post-Grimmian epoch and the scientific movements of today. The value of medieval and O. H. G. theological Ms., Latin sermons, medieval poems, collections of charms and conjugation-formulas of the High German period (Schönbach listed 1,500 such), *exempla*, etc. is pointed out. The "oldest folk-lore monograph" is the *Westfalia* (ca. 1478) of W. Rolevinck, the Carthusian, of Cologne. In the last third of the 17th

century and in the beginning of the 18th many collections containing folk-lore material, discussions of superstitions, etc., appeared. Next comes the influence of Percy's *Reliques*, the era of Herder, Goethe and the "romantic school" with the honor done to *Volksbücher*, etc., by the "Stürmer" and "Dränger" collections of folk-songs, etc. Next the scientific beginnings of the Grimms and the recognition of folk-prose (*märchen*, etc.), followed by attention to mythology, legends, ceremonies and rites, customs and usages, and the modern study of "folk-lore."

Heilig (O.) Karfreitagsglocken und damit Zusammenhängendes. (Ibid., 398-399.) In addition to data of R. Andree cites 8 items concerning Good Friday bells from Baden (northern part) and customs connected therewith. See Andree (R.).

Helimich (M.) Volkstracht in der Gegend von Boyadel. (Mitt. d. schles. Ges. f. Volksk., Breslau, 1909, XI, 203-208.) Notes on folk-costume in the Boyadel region (the work-dress of the women; differences in dress of women according to age; various kinds of coats; the "Einhuille"; caps, etc.; little remaining of men's dress that is distinctive).

Helm (K.) Mittelalterliche Geburtsbenediktionen. (Hess. Bl. f. Volksk., Lpzg., 1910, IX, 208-211.) Cites Latin texts of three medieval "birth-blessings," one from Germany, two from England. In the first this passage is peculiar: *Tribus vicibus cum dextro pede, in domum in qua jacet calca; in the third occurs Arepo tenet opera rotas; in the second Caspar, Melchior and Baldesar figure. Near the end of the third are the words bhurnon + blütaono.*

Hervé (G.) Anthropologie de la Suisse. (R. de l'Éc. d'Anthr. de Paris, 1910, XX, 248-251.) Résumés studies of E. Pittard on Swiss anthropology: *Crania Helvetica, Les crânes valaisans de la vallée du Rhône* (Paris, 1909-1910), based on investigation of 800 crania (chiefly 13-19th century) from Valais osmaries. The dominant type 87-89 per cent. is brachycephalic,—in Sierre there is a relatively dolichocephalic "island," due probably to survivals of the type of Chamblandes, or, perhaps, in part, to Burgundian immigrants.

Heuft (H.) Westfälische Hausinschriften.

(Z. d. Ver. f. Volksk., Berlin, 1910, XX, 85-90). Nos. 33-100 of Westphalian house-inscriptions in German, Latin, etc., from Oelde (town and parish), dating from 1609 to 1880.

Hoffmann-Krayer (E.) Bibliographie über die schweizerischen Volkskunde-literatur des Jahres 1909. (Schw. Arch. f. Volksk., Basel, 1910, XIV, 92-96.) Cites 78 titles distributed under following heads: General and bibliographical, miscellaneous, folk-industry, house and furniture, food, dress, folk-art, customs, visages and festivals, folk-beliefs, folk-poetry, and folk-tales, names, language.

Höfler (M.) Der Kohl. (Hess. Bl. f. Volksk., Leipzig, 1910, IX, 161-190.) Treats of the cabbage in mythology, folk-lore, folk-medicine among the Romans (Pliny, Cato), Greeks (Hippocrates), etc.—at pages 168-181 are given with comments of a comparative nature 18 items from Dioscurides, a Roman military physician from Anazarba in Cilicia, contemporary of Pliny and author (ca. 77 A.D.) of a work on medicine (5 books) in Greek; and on pages 181-184 other and later data concerning the folk-medicinal uses of cabbage; pages 184-189 items of folk custom, etc., concerning this vegetable (special times of planting; among the Eaths the planters must be clothed in white; must be used only during a certain season or at a certain cult-time; is a soul-plant; source of new-born infants, "the cabbage-bed"; proverbs and folk-sayings in which the cabbage figures; cabbage-dance at weddings, etc.). The cabbage came from the Orient and reached Italy from Greece, thence Germany in the 6th century and many folk-customs and much folk-lore traveled with it from country to country. The South German peoples took it over both as a healing plant and a sacrifice for the house-spirits.

Holden (J. S.) The existence of an early paleolithic bed beneath the glacial boulder clays in southwest Suffolk. (Man, Lond., 1910, X, 43-44, 1 fig.) Brief account of finding of several genuine paleoliths at Great Waldingfield and Stanstead *in situ* beneath the blue boulder clay, indicating that "man must have existed on this old land surface before the commencement of the glacial period."

Houzé (—) L'Institut de Sociologie

Solvay de Bruxelles. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., I, 355-360.) Treats of the field of investigation of the Institut Solvay of Brussels, founded in 1901 for applying to the social sciences the methods of investigation that have produced such brilliant results in the fields of biology and physiology. The study of anthropology serves as a solid basis for sociology, whose aim is to interpret the actions and the reactions of individuals among themselves.

Hubert (H.) La Commission des Monuments préhistoriques. (L'Anthropologie, Paris, 1910, XXI, 321-331.) Treats of the activities of the Commission on Prehistoric Monuments, reorganized in 1909; gives list of members and of monuments classed 1900-1908 and since 1909. Also discusses methods of investigation, problems, etc.

Ilberg (J.) Zur gynäkologischen Ethik der Griechen. (A. f. Religsw., Lpzg., 1910, XIII, 1-19.) Treats of the controversies over abortion, etc., in ancient Greece (Soranos and after), the ethics of gynecology, etc.

Jacques (V.) Société d'Anthropologie de Bruxelles. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., I, 352-355.) Notes on the Brussels Anthropological Society, founded in 1882, with Prof. L. Vanderkindere, of the University of Brussels, as President (extracts given from inaugural address). It began with 45 members and now has several hundred. Of its *Bulletin* 27 volumes have appeared.

Jaeger (J.) Tölz und die Isarlandschaft. (Globus, Brnchw., 1910, xcvi, 37-40, 62-65, map.) Contains notes on the prehistoric remains (regular settlement of man here dates only from the metal period, bronze and Hallstatt epoch especially), Roman period (place-names), Germanic invasion (Bajuvari; few *Reihengräber* as yet discovered; place-names; Alemanni), Slavs (especially Wends), later Germanic influences, etc.

Jubilé du Cinquantenaire de la Société d'Anthropologie. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., I, 297-330.) Report of the celebration of the Jubilee of the foundation of the Anthropological Society of Paris, Speeches, lists of Delegates, reports of foreign delegates on the condition of anthropology in their respective countries (Germany,

- England, Austro-Hungary, Belgium, Denmark, Cuba, Italy, Poland, Russia, Switzerland), toasts (pp. 409-438), scientific addresses (pp. 438-530).
- Jungwirth (E.)** Volksrätsel aus Ostermething, im oberen Innviertel. (Z. d. Ver. f. Volksk., Berlin, xx, 83-85.) Cites dialect texts of 34 riddles in German of the Inn region.
- Kahle (B.)** Flandern. (Mitt. d. schles. Ges. f. Volksk., Breslau, 1909, xi, 53-54.) Points out that the word *Flanderei* (flatterer, unstable, etc.) and cognates, had originally nothing to do with the country of Flanders, with which folk-etymology now associates them.
- Kaindl (R. F.)** Das deutsche Ansiedlerhaus in Galizien und sein Einfluss auf die einheimischen Bauernhäuser. (Globus, Brnschw., 1910, xcvi, 104-110, 117-123, 21 figs.) Treats in detail of the house of the German settlers in Galicia and its influence upon the native peasant-houses. German influence upon the town-life, etc., of Galicia began in the 13th century, and to a certain extent the country also influenced, as may be seen from words in the Polish vocabulary, the use of tile and stone houses, etc. But it was with the "colonization" schemes of Emperor Joseph II, that German influences made themselves strongly felt in the agriculture, architecture, etc., of the Galician peasantry.—the "Swabians," were followed in the 19th century by many Germans from Bohemia. The German influence is notable in the arrangement of fire-place and chimney; also in better floors, larger windows, better barns, stables, etc. Influence on furniture, implements and utensils, even clothing is also seen here, as, again, the vocabulary shows with its numerous German loan-words.
- Karbe (W.)** Mecklenburgische Nixensagen. (Ibid., 29-33.) Treats of tales and legends of water-spirits (nixes) in Mecklenburg (the fair-haired woman of the Glambek lake, the "water-women" of Wanzka lake, Stolp lake, etc.). Author discusses the origin, etc., of beliefs in the evil character of water and of things more or less directly connected with it; the relation of water-lilies, etc., with the water-spirits. A good deal of the legends in question may be reflexes of the relations of conquered and ruling races, etc., as Gomme has sought to show.
- King (H.)** Small kist and urn at Tregiffan Vean, St. Just-in-Penwith, Cornwall. (Man, Lond., 1910, x, 44.) Brief note on discovery of urn (ca. 400 B. C.; no bones or ashes) in a small kist (24X15X12 ins.).
- and Polkinghorne (B. C.) Holed stone at Kerrow, St. Just-in-Penwith, Cornwall. (Ibid., 29-30.) Note on discovery in 1907 of a circular slab of granite with a cylindrical hole (apparently worked with iron tools) in the center, some 8 inches deep and 8 inches in diameter, the slab being 12-14 inches thick and 48 inches in diameter. Underneath was much wood charcoal but no bones. The hollow may have been "a receptacle for cremated bones, if not for a small urn."
- Kinnaman (J. O.)** The transformation of Roman monuments. (Amer. Antiq., Salem, Mass., 1910, xxxii, 3-26, 4 figs.) Treats of the House of Vestals (became state property in 394 A. D.), the Senate House (rededicated as a new building in 29 B. C.; converted into two churches in the 7th century A. D.), the "Augustan group" on the Palatine (general neglect began with transfer of government to Constantinople; art treasures soon scattered), destruction and filling up of the aqueducts, the Circus, etc.
- Kirchner (V.)** Ein christlicher Warnungsbrief. (Z. d. V. f. Volksk., 1910, xx, 61-66, 2 figs.) Reproduces with explanatory notes a "warning letter," printed in 1850 at Frankfurt a. M., and of orthodox Christian origin and import. The letter is directed: "An dich und mich und alle Menschen."
- Klaatsch (H.)** Die Aurignac-Rasse und ihre Stellung im Stammbaum der Menschheit. (Z. f. Ethnol., Berlin, 1910, xlii, 513-577, 3 pl., 46 figs.) Treats in detail of the osseous remains of the "race" of Aurignac (*Homo Aurignacensis* Hauseri), represented by the skeleton found in the lower Aurignacian of the "station of Combe-Capelle near Montferrand in Périgord. Skull, humerus, ulna, and radius, tibia and femur, etc., are studied and compared with those of other human races and the anthropoids. According to K., "the Aurignac species and the Neanderthal species are as different from each other as the Orang and Gorilla." Paleolithic races may be intermediate forms and not mixed types of these. The Galley

Hill skeleton of all paleolithic finds most resembles the *H. Aurignacensis*. The dolichocephalic Teutonic races may be descendants of the *H. A.*, thus settling the Aryan question against a late "Indo-Germanic" immigration, and proving continuity of the dolichocephalics in Europe. K. believes in a gorilloid relationship of the Neandertal man (also Le Moustier, La Chapelle-aux-Saints, etc.), and an orangoid affinity of the Aurignac man; gibbonoid affinities appear in the *Pithecanthropus* and the *Homo Heidelbergensis*. A scheme of the origin and distribution of the human races and anthropoids (exclusion of gibbonoids and anthropoids) is given on p. 567, in which the Aurignac man is assigned an Asiatic provenance. K. accepts the view of the development of the taller races from pigmoid forms.

— **H. Hauser** (O.) *Homo Aurignacensis* Hauseri, ein paläolithischer Skelettfund aus dem unteren Aurignacien der Station Combe-Capelle bei Montferand Périgord. (Prähistor. Ztschr., 1910, I, 273-338, 11 pl.) Gives account of discovery of the "Aurignac man" in August, 1909. See previous title.

Klapper (J.) *Schlesische Sprichwörter des Mittelalters*. (Mitt. d. schles. Ges. g. Volksk., Breslau, 1910, XII, 77-109.) Cites from Latin Mss. of Sermons of the 14th and 15th centuries 454 specimens of Silesian proverbs (arranged alphabetically under catch-words), some in Latin only. In these proverbs are revealed a healthy egoism, self-limitation, and a sense of the individual's relations to the whole.

— *Die schlesischen Geschichten von den schädigenden Toten*. (Ibid., 1909, XI, 59-94.) (Pages 59-70 treat of the vampire idea (the numerous varieties are briefly considered), form, nature, etc., of these "monsters"; pages 71-94 deal with Silesian tales of the harmful and injurious dead; *spiors*, misbirths, ghosts of suicides, witches and others, *incubi*, nightmares, etc. Beheading or mutilating corpses was practiced to prevent the return of the dangerous dead.)

— *Eine Weltchronik des ausgehenden Mittelalters*. (Ibid., 119-141.) Treats of the world-chronicle of Johannes von Hagen (a Carthusian monk) dating from 1468, and forming pages 115-225 of Ms. IV. F. 54 of the Royal and University Library in Breslau. Numerous

mythological and folk-lore items are cited from this chronicle, e. g. legends of Alexander, Charlemagne, etc., and folk-lore data concerning witches, demons, dreams, ghosts, "black Greta," etc.

Korff (Alletta) *Where women vote*. (Nat. Geogr. Mag., Wash., 1910, XXI, 487-493.) Discusses effects of woman's suffrage in Finland,—conditions of women improved, etc.

— *Notes on Finland*. (Ibid., 493-494.) Calls attention to present nationalistic movement for replacing Swedish with Finnish; Finns of pure stock are now prominent in political and academic life.

Krause (P. G.) u. **Krause** (E.) *Über Quarzit-Eolithen im Lösgebiet von Allrath im Rheinland*. (Z. f. Ethnol., Berlin, 1910, XLII, 586-597, 1 fig.) Treats of quartzite eoliths (Miocene) from two places W. of Allrath. The finds here are Flenusian, to judge from the other evidences.

Kühnau (R.) *Schlesische Flurumzüge, besonders das Saateuren*. (Mitt. d. schles. Ges. f. Volksk., Breslau, 1909, XI, 173-186.) Treats of the custom of marching around the fields between Easter and Whitsuntide, etc., in various parts of Silesia, now and formerly: on foot (Glatz, Jauernig, etc.), on horseback ("the King's riding" in Austrian Silesia; also "Easter riding," "Seed riding," etc., in Neiss, Lausitz, Frankenstein, etc.). The circuiting in vogue at Schönwalde, near Frankenstein (pp. 181-186) is notable in several ways and is shared in by the whole community.

Kupka (P.) *Über eine neue spätneolithische Kultur aus der Altmark*. (Z. f. Ethnol., Berlin, 1910, XLII, 601.) Note on finds at Neuhaldensleben, Schönfeld and Gr.-Ellingen, representing a new late-neolithic culture (pottery ornamentation, etc.) for Altmark.

Lang (A.) *Method and Minotaur*. (Folk-Lore, Lond., 1910, XXI, 132-146.) Discusses the "bull-headed, bull-hoofed and bull-tailed man-monster, the Minotaur" in ancient Greek mythology, etc. According to L., "the Attic Theseus story is but a world-wide *märchen*, colored, probably by a memory of the sports in the bull-ring (at which captives may have been the performers), and perhaps by representations in art of men with bovine

heads." The only possible historic fact in the myth is the sending of Attic captives into the Cretan bull-ring.—"the rest of the myth is a common *märchen* localized." There is no proof of human sacrifices in Crete in prehistoric times. The bull-headed monster is only one of many fantastic and grotesque figures in Cretan art, and not confined to it (cf. Elam ca. 3,000 B. C.). For the story of conflicts with the Minotaur, "we have no evidence beyond the Athenian adaptation of the *märchen* of the Lad, the Giant (or Elephant), and the Giant's Daughter to the names of Theseus, Minos, and Ariadne." The view that the Minotaur was the king or prince of Knossos (=god), masked as a bull and fighting every nine years for his life and his rights, or being butchered in a cave, has no standing.

— "Sex-totems" in England. (Anthropos, St. Gabriel-Mödling, 1909, IV, 1095-1096.) According to L., in medieval England, the *holly-tree* was the sex-totem of the men, the *ivy-tree* that of the women. To the killing of the men's emu-wren by the women of the Australian Kurnai, corresponds "the Kentish custom by which the lads steal the 'ivy lass' of the girls, the girls steal the 'holly lad' of the boys."

Lattes (—) A che punto siamo colla questione della lingua Etrusca? (Rend. R. Inst. Lomb., Milano, 1910, S. II, XLIII, 157-160.) Résumés recent studies of the Etruscan language. Three important facts suggest Aryan relationship (identity of Etruscan proper names with Latin, Etruscan rule in Rome, Latinity of Tuscan speech to-day). See the author's more detailed article in *Atene e Roma*.

Lauffer (O.) Neue Forschungen über die äusseren Denkmäler der deutschen Volkskunde: volkstümlichen Hausbau und Gerät, Tracht und Bauernkunst. (Z. d. Ver. f. Volksk., Berlin, 1910, xx, 100-107.) Treats of recent literature on the various types of German houses, furniture, costume, folk-art, etc. Among the chief works noted are: W. Pessler's *Das altdeutsche Bauernhaus* (Braunschwg., 1906), treating of the Old Saxon house and its geographical distribution, and several periodical articles by the same author.

Laville (A.) Silex taillés des graviers de fond rappelant les types néolithiques.

(Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., I, 152-155, 7 figs.) Describes two quaternary flints from gravel and sand pits at Eragny and Cergy, resembling neolithic types of Pressigny, etc.; also several other specimens of Chellean, Mousterian, Magdalenian, etc. The crown of an upper molar of *Equus Stenonis* was also found at Cergy, with teeth of other animals.

— Râpe angulaire néolithique. (Ibid., 63-64, 3 figs.) Notes on an angular neolithic "rasp" described by M. Frémont. This sort of implement replaced the earlier "coup de poing."

— Le climat chaud présumé du pléistocène. (Ibid., 64-68.) From study of animal remains, human artefacts, etc., at Cergy, Créteil, Chelles, the valley of the Bièvre, etc., L. concludes that the commonly accepted classification and ideas about the climatology of the periods of the quaternary deposits of this region are not justified. Probably a temperature neither absolutely cold nor absolutely warm existed at the Chellean epoch.

— Trace de rapage? sur bois, de cerf préhistorique. (Ibid., 1909, V^e s., X, 57.) Brief note on a fragment of deer-horn from the bronze-age "dépôt" of Villeneuve-Triage showing marks of having been rasped by a stone implement.

— Les gisements préhistoriques des berges de Villeneuve-Saint-Georges. (Ibid., 243-258, 29 figs.) Lists and describes 87 objects (flint implements, pieces of pottery, teeth and other human remains, animal bones, shells), several hearths, etc., from deposits of the neolithic age, first explored in 1865 by M. Roujove and by L. in 1876, and from 1880 to the present time.

Lewalter (J.) Drum Brüder, stösst die Gläser an: Es lebe der Reservemann! (Z. d. Ver. f. Volksk., Berlin, 1910, xx, 207-209.) Text and music, with bibliographical notes. The melody comes from F. Bérat's "Ma Normandie," borrowed by some German soldier before 1865 (Bérat lived 1800-1855). In a foot-note J. Bolte points out that Bérat's melody had already been introduced into Germany in 1842 by F. Silcher, to a German version of the text by A. Keller.

Lewis (A. L.) Some stone circles in Ireland. (J. Roy. Anthr. Inst., Lond., 1909, XXXIX, 517-529, 5 figs.) Treats

of circles in the Lough Gur region, near Limerick, where such were once very numerous,—stone and earth circles, rings, lines of stones, standing stones, "giants' graves," circular walls, dolmens, etc. See also *Amer. Antig.*, 1910, XXXII, 50-51.

Lindenstruth (W.) Zum Kometenglauben. (Hess. Bl. f. Volksk., Lpzg., 1910, IX, 198-199.) Cites the edict for a day of penance issued by the authorities of the village of Busseckerthall, the 7th of January 1619, on account of the appearance of a comet at the close of the previous year.

— Die Ortsnamen Bramaren und Beuern. (Ibid., 195-198.) Shows that linguistically these words are not identical and must denote different places.

Livi (R.) L'esclavage domestique au Moyen Âge et son importance en anthropologie. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., I, 438-447.) Treats of domestic slavery in the Middle Ages and its anthropological importance. Adds to previous articles on this topic (see *Amer. Anthropol.*, 1909, N. S., XI, 718), facts concerning France 1338-1456,—purchase, sale, manumission of slaves.

Lohmeyer (K.) Der Pfingstquak in der Saargegend (Z. d. Ver. f. Volksk., Berlin, 1910, XX, 399-401.) Treats of the "Quak riding" and singing by young people in search of eggs from house to house at Whitsuntide in the Saar region about 1860: Dudweiler, Waldhambach, Hirtzweiler, Ottweiler, Fechingen, etc., and in St Ingbert outside of Saarland. In some of the villages "Quacken" on foot continued till late in the 19th century. In Ettingen on Whit Sunday even now a boy acts as "Neschquack."

Lowak (A.) Drei Dramen mit Verwendung der schlesischen Mundart aus den Jahre 1618. (Mitt. d. schles. Ges. f. Volksk., 1909, XI, 141-173.) Gives parts of the Silesian dialect texts of three plays published at Wittenberg in 1618, the author being Rev. Martinus Bohemus (1557-1622) of Lauban. The peasant parts in these plays are in dialect. The plays are: "Acolastus; Eine Lustige Comœdia vom verlorenen Sohne"; "Eine Schöne Comœdia vom Alten und Jungen Tobia"; "Tragicomœdia. Ein Schön Teutsch Spiel vom Holoferne und der Judith."

Luquet (G. H.) Sur la signification des pétroglyphes des mégalithes bretons. (R. de l'Éc. d'Anthr. de Paris, 1910, XX, 348-352, 17 figs.) Second part. Treats of pediform and pectiniform signs. According to L. the pediform sign is often "the schematization of the frontal line, either directly or by way of the jugiform sign." A similar origin is proposed for the pectiniform sign,—here the vertical lines represent the hairs of the eyebrows.

— Sur les caractères des figures humaines dans l'art paléolithique. (L'Anthropologie, Paris, 1910, XXI, 409-423, 24 figs.) Treats of the characteristics of paleolithic figures of human beings (grottoes of Altamira, Combarelles, Mas d'Azil, Marsoulas, Laugerie-Basse, etc.) compared with modern *graffiti* and the drawings of children. After discussing the theory that these "anthropomorphic" figures represent "sorcerers" or "medicine men" of a primitive sort, L. argues that the people capable of drawing as the paleolithic artists did good heads of animals on animals, would not, if they intended to put animals' heads on human beings, make such poor ones as occur on these figures. Hence, they must have been trying to draw human beings, a field of art in which they as yet, like children, were novices. But with children drawing evolves inversely from the way it does with prehistoric man, "not from animals to man, but from man to animals." With the child, in many cases, its first animals are horizontal human beings; for prehistoric man human beings are animals set up vertically. This accounts for certain peculiarities of the human figure in paleolithic art,—men drawn as quadrupeds to begin with have not yet quite ceased to be such.

MacAuliffe (L.) et Theoris (—). Mensuration comparée des pavillons auriculaires de 100 soldats du 104^e régiment d'infanterie et de 100 aliénés, épileptiques et idiots. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., I, 62-63.) Gives results of measurement of ears of 100 soldiers and 100 lunatics, epileptics, and idiots. The percentage of ears of equal length was: soldiers 35, abnormals 20; right ear longer than left, 23, 44; left ear longer 42, 36.

Máchoire de Heidelberg (Ibid., 1909, V^e s., X, 57-61.) Discussion by MM.

Manouvrier, de Mortillet, Regnault, etc., on the jaw bone of the *Homo Heidelbergensis*. M. Manouvrier objected to its recognition as belonging to a new species, and M. de Mortillet thought it was only an exaggerated form of the Spy-Neanderthal type. See Siffre (A.)

Maeterlinck (L.) *Le Rôle comique du Démon dans les Mystères flamands*. (Mercure de France, Paris, 1910, LXXXVII, 385-406.) Treats of the comic rôle of devils and imps in the old Flemish mystery-plays—the demons were made to serve the part of the modern circus-clown, their dress, conversation, etc., being constituted to that end. On this subject see further Dr P. H. van Moerkerke's *De Satire in de nederlandse Kunst der Middeleeuwen* (Amsterdam, 1904). Maeterlinck's *Genresatirique, fantastique et licencieux dans la sculpture flamande et wallonne* (Paris, 1910).

Mangler (L.) *Zweigeistliche Lieder aus den Odenwalde*. (Z. d. V. f. Volksk., Berlin, 1910, XX, 401-403.) Text and music of two spiritual songs, heard by the author as a boy from the wife of a forester of Buchen in the Baden Odenwald: "Sankt Katharina," and "Die arme Seele"; the first is in Erk-Boehme's *Liederhort*, No. 2126; the other corresponds to 217a of the same collection.

Mankowski (H.) *Die Adventskurrende und die Jutznia in Masuren*. (Ibid., 326-327.) Notes on advent customs of the Masures of Sensburg 40 years ago, particularly the *jutznia* (dawn) singing, etc.

Manouvrier (L.) *Les cauterisations à l'époque néolithique*. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., 1, 530.) Note affirming, from evidences on the skulls in the Broca Museum, the existence of cauterizations in the neolithic period,—the marks were earlier termed by M. "the sincipital T."

— *La Société d'Anthropologie de Paris depuis sa fondation 1859-1909*. (Ibid., 305-328.) History of the Society by the General Secretary. Of the founders of the Society 16 out of 19 were physicians; in 1861 the proportion was 73 out of 91; the average for the 50 years is 51.6 per cent.; out of its 1103 ordinary French members 496 were physicians in civil life, 56 army and 57 naval physicians. But the Society has always had representatives

of other sciences, from mathematics and physics to history. Paleoethnology and prehistoric archeology have largely grown up with the Society. Its publications, exclusive of laboratory manuals and guides for travelers and investigators, etc., number 62 volumes, the contents of which cover all fields of anthropological research. Dr M. defines anthropology as "the study of the differences of all sorts concerning human beings" (p. 328).

— *Note sur les débris humains du dolmen de Barbehère, Gironde*. (Ibid., 1909, V^e s., X, 135-141.) Describes, with some measurements, an incomplete female skull (index 74), fragments of 6 male and 2 female femurs, two male and one female tibias, from the dolmen of Barbehère at Potensac. One of the femurs shows dislocation of the hip (congenital), and in the discussion Dr M. Baudouin cited several examples from caves, dolmens, and Gallo-Roman graves of pelvic bones (whole and fragmentary) indicating such dislocation, etc.

Martian (J.) *Archäologisch-prähistorisches Repertorium für Siebenbürgen*. (Mitt. d. Anthropol. Ges. in Wien, 1909, XXXIX, 321-358, 1 fig.) Alphabetical list of 769 localities in Transylvania of archeological prehistoric interest, with indication of remains found; also bibliography of 195 titles and list of more important sorts of objects, remains, etc., with reference to place where found. This valuable adjunct to research might well be imitated in America.

Mascaraux (F.) *La grotte Saint-Michel d'Arudy (Basses-Pyrénées, fouilles dans une station magdalénienne*. (R. de l'Éc. d'Anthr. de Paris, 1910, XX, 357-378, 21 figs.) Treats of the explorations (begun in 1888) of the grotto of Saint Michel d'Arudy and the finds there made: flints, bone and horn implements (arrow and spear points, piercers, needles, harpoons, *osillons*), pieces of horn and bone with figures of animals, etc., carved upon them, ornaments, etc. According to M. this "station" (Magdalenian) "belongs to that phase of artistic evolution comprehending the close of the époque *hippique*" and the "époque *rangiférienne*" (Piette). The objects found at the grotto of Saint Michel have been figured in E. Piette's *L'Art pendant l'âge du renne* (1907).

Mather (F. J., Jr.) The evil eye. (Century, N. Y., 1910, LXXX, 42-47, 6 figs.) Treats of the "evil eye" in Italy and the charms and amulets against it. Among those said to have had the "evil eye" were Pope Pius IX and a recent prime minister.

Meier (J.) Geschichte einer modernen Volksliedes. (Schw. Arch. f. Volksk., Basel, 1909, XIII, 241-270.) Discusses the history of the modern folk-song "Es gieng einmal ein verliebtes Paar Im grünen Wald spazieren," cited from Wiggertal and the Hinterland of Lucerne by Gassmann, gives numerous examples of shorter and longer versions, etc. The original song emphasizes the final bliss and sanctity of the couple. The original metric form was the 8-lined strophe. The melody is for the most part not old. See also, Gassmann (A. L.) *Das Volkslied im Luzerner Wiggertal und Hinterland* (Basel, 1906).

Menghin (O.) Ein Weihnachtstanzenspiel aus Tirol. (Z. d. Ver. f. Volksk., Berlin, 1910, XX, 387-394.) Gives dialect text (258 lines and music) of a Christmas folk-play of the Tirol recorded from the dictation of a 73 year old man, who had taken part in its presentation, when a youth. The *Weihnachtstanz* is furnished to foreigners during the whole year as "Tirolese fruit bread." These little plays originate in the poorer people seeking by their presentation to obtain this "festal food" from the richer.

Meyer (A. O.) Einiges über den italienischen Volkscharakter. (Mitt. d. schles. Ges. f. Volksk., Breslau, 1909, XI, 1-37.) Interesting folk-psychological study of the Italian people. The keynote is *pazienza* with which goes failure to appreciate the value of time, but also courtesy, child-likeness, *joie de vivre* (Lebenslust), social tact, indifference to the world outside, no "tourist-sense," feeling for nature not absent (past and present prove this), artistic in pose and movement and in language, unlovely aspects of business and the market, lack of sound business sense, red tape and bureaucracy, national feeling, but almost no state feeling.

Mielert (E.) Die Insel Korsika. (Globus, Brnchw., 1910, XCVIII, 56-62, 69-74, 85-90, 21 figs.) Contains notes on the people and their culture, occupations, etc.: Banditism, vendetta,

hospitality, clothing, food, various towns, etc., houses, etc.

— Carrara und sein Marmor. (Ibid., 1910, XCVII, 293-299, 7 figs.) Treats of Carrara and its famous marble-quarries, the workmen, etc.; method of transportation; use and workings of the material.

Mielke (R.) Über die Aufnahme der Getreidepuppen. (Mitt. d. Verb. deutschen Ver. f. Volksk., 1909, Nr. 10, 6-8.) Notes on "Getreidepuppen" ("corn maidens," "last sheafs"),—the author's collection, from more than 100 places, represents all Germany; their names, the number of sheaves (sometimes 30), and constituents other than grain (e. g. clover, lucern, etc.), shape and form, etc.

Mochi (A.) Per un "Atlante Antropologico dell'Italia. (A. p. l'Antrop., Firenze, 1909, XXXIX, 257-264.) Discusses and approves the proposal for an anthropological atlas of Italy made by Prof. F. Frassetto, of the University of Bologna, at the meeting of the Italian Association for the Advancement of Science. At the meeting of Italian anthropologists at Padua in September, 1909, a committee (Mantegazza, Sergi, Tedeschi, Frassetto, Gluffrida-Ruggeri and Pullè) was appointed to further the project.

— Les institutions et les études anthropologiques en Italie. Histoire et état actuel. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., 1, 376-392.) Good résumé of Italian anthropological activities (Nicolucci in 1858 published a book on human races; in 1871 the Italian Anthropological Society was founded; in 1870 Mantegazza was made Professor of Anthropology at the Royal Institute of Higher Studies in Florence and the National Anthropological and Ethnological Museum established in that city, the ethnographic section of this Museum now contains 16,000 specimens, the anthropological section proper, some 5,000; in connection with the Museum, an anthropometric laboratory was established in 1901; in 1907 a Museum of Italian Ethnography was founded at Florence). Partial university courses in anthropology began as early as 1869 at Pisa,—since then, Bologna, Naples (1880), Rome (1884), Padua (1898), the three last having chairs, assistants, laboratories, etc. The activities of the Anthro-

pological Society, the labors of Colini, De Micheli, Pitré, Pigorini (with the *Bollettino de Paleontologia Italiana* since 1871), the physical anthropological researches of Livi, Pagliani, Riccardo, Maggi, etc.; Mantegazza and the *Archivio per l'Antropologia*, Sergi and his descriptive craniological system; the criminal anthropological school of Lombroso and its criticisms by Mantegazza, Tanzi, etc.; the evolutionistic doctrines of Morselli; the neo-evolutionist contributions of Giuffrida-Ruggeri, etc.

Montané (L.) Rapport sur l'état des sciences anthropologiques à Cuba. (Ibid., 370-375.) Treats of anthropology in Cuba, which goes back to the time of M. R. Ferrer's *Naturaleza de la grandiosa isla de Cuba*,—he was sent to Cuba from Madrid in 1847; the Cuban Anthropological Society, founded in 1877; the chair of Anthropology in the University of Havana, founded in 1899, the first in Latin America; the Anthropological Museum, founded in 1886, and in 1905 re-named the Montané Museum. On pages 373-375 are given the list of lectures offered in anthropology.

Montelius (O.) The sun-god's axe and Thor's Hammer. (Folk-Lore, Lond., 1910, XXI, 60-78, 6 pl. with 30 figs.) Produces evidence (Indra with his axe, the lightning; Assyrian deities with axe and thunderbolt in hand, Zeus Labrandeus with the double-axe; the ancient Cretan double-axe; double-axe of Asia Minor and of the Syrian deities; the double-axe symbols of the European bronze age, etc.; the axe of the Thracian sun-god and the mallet of Heracles; the sun and thunder deities of Gauls, Slavonians, Lithuanians, Teutons and Scandinavians with axe and hammer in hand,—the hammer of Thor is discussed particularly on pages 70-78). Dr M. concludes that the idea of Thor's hammer is not peculiar to the Scandinavians, for "the god of the sun and that of thunder were originally one and the same god, and from time out of mind and by widely different peoples the axe has been considered as the sun-god's weapon, and amongst certain peoples it became a hammer."

Moser (L. K.) Alte und neue prähistorische Karsthöhlenfunde von Nabresina. (Globus, Brnsw., 1910, xcvii, 372-378, 23 figs.) Treats of

the finds of prehistoric objects (flints and implements of like material, horn and bone with human and animal figures, stone hammer, obsidian artefacts, animal and human bones, pottery painted and ornamented, etc., in the "Karst" caves of Nabresina, above Triest. The lowest strata belong to the paleolithic period; the ash-layers above these are neolithic. The human figure incised on bone belongs to the lowest culture-stratum. Interesting also is the figure of a tortoise on a piece of bone. The pottery is relatively well developed. Some of the ceramic ornamentation suggests Mycenae.

Mosher (A. M.) A singer of folk-lore. (Century, N. Y., 1910, LXXX, 18-23, 4 figs.) Treats of the life and character of Marc'harit Fulup, recently dead, "the last of the old-time popular singers of Brittany," whose name is linked with those of Luzel and Le Braz. The author's personal visit to the singer is described.

de Mot (J.) The devil-fish in ancient art. (Rec. of Past, Wash., 1910, ix, 276-278, 1 fig.) Notes devil-fish in Mycenaean art (e. g. on a vase from Rhodes). This creature then, as now, was an important source of food, and furnished to the art of the Egean Archipelago some characteristic images. Translated by H. M. Wright from the original article in *Bull. d. Mus. Roy. d. Arts Décor. et Industr.* (Bruxelles), April, 1907.

Neckel (G.) Die altisländische Saga. (Mitt. d. schles. Ges. f. Volksk., Breslau, 1909, xi, 38-52.) Treats of the history and character of the Old Icelandic saga. Varieties of the saga: *Fornaldarsögur*, tales of the period before the settlement (ca. 900 A.D.) of Iceland; *Konunga sögur*, biographies of Old Norse Kings, particularly St Olaf (d. 1030 A.D.); *Islendinga sögur*, tales of Iceland. The oldest Saga-Mss. date from ca. 1300. Oral tale and written tale are not always the same. An important element of the saga was local tradition. History, tradition, and literary invention are to be distinguished. The saga-account can be controlled by other sources (cf. Jessen's treatment of the Egilssaga), wander-fables disguised may be discovered (e. g. the episode of the dying Arab in the Viga-Grímssaga), the stylizing tradition betrays itself (cf. in

- the tale of Flóki), dimmed tradition often appears (e. g. in the "Icelandic sagas"), interpolated strophes occur (e. g. in the first part of the *Njáls saga*) often much later than the rest of the material. The life of Icelanders in the saga-age resembled much that of the Teutons of the Merovingian period.
- Nestle (E.)** *Inschriften auf dem Schenkel.* (Berliner Philol. Wechnschr., 1910, xxx, 1398-1399.) Cites examples of inscriptions on the thigh (statue of Apollo, figure of horse, wolf, Etruscan statue from Martha) in Greek and Roman antiquity. Apuleius in his *De Magia* notes as religiously harmless the practice of marking statues on the thigh.
- Nippgen (J.)** *La langue primitive des Lapons d'après K.-B. Wiklund.* (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., x, 198-210.) Résumés K. B. Wiklund's *Entwurf einer ur-lappischen Lautlehre* published in the Memoirs of the Finno-Ugrian Society for 1896; Data for our knowledge of pro-Lapp and pro-Finnish; primitive home and period of pro-Lapp; Lithuanian loan-words in Lapp, Lithuanian loan-words via Finnish in the pre-Lapp period; Slav loan words in Lapp in the pro-Lapp period. W. concludes: The pro-Lapp is practically identical with an ancient stage of the pro-Finnish. The primitive tongue out of which grew both pro-Lapp and pro-Finnish is much older than that from which have been derived the various modern Finnish languages. See Zaborowski (S.)
- Olbrich (K.)** *Literatur und Volkskunde.* (Mitt. d. schles. Ges. f. Volksk., Breslau, 1909, xi, 34-36.) Notes on novel and folk-lore (a fine example is W. Meinhold's *Bernsteinhexe*, 1843) and the cat in literature and folk-belief. The latter is illustrated in Dr F. Leppmann's *Kater Murr und seine Sippe* (München, 1908).
- *Was die Grossmutter singt.* (Ibid., 103-110.) Cites numerous items from the folk-song repertory of an aged lady in Breslau and refers to corresponding songs in Erck-Boehme and Hoffmann von Fallersleben—Richter: Ritter und Magd, Die Schenkdirne, Die Verlassene, Oderschifferlied, Meuchelmord der Geliebten, Der treue Husar, Die Gärtnerfrau, Der eifersüchtige Knabe, Der Deserteur.
- *Ostergiesen auf Schloss Lubowitz, 1804.* (Ibid., 110-111.) Cites from Eichendorff's *Tagebuchaufzeichnungen* a brief account of the "Ostergiesen" as practiced April 2, 1804.
- Olrik (A.)** *Wettermachen und Neujahrsmond im Norden.* (Z. d. Ver. f. Volksk., Berlin, 1910, xx, 57-61.) Cites items concerning "weather-making" in Denmark from H. Feilberg and E. T. Kristensen, and other folk-lore evidence as to the ancient conception of the first moon of the year as a "king and lord," the relation of the month-names to the visible periods of the moon; the distribution of the months (January for men, February for women, March for youths, April for girls, May for boys, etc.). The merry "weather-making" in Iceland and Denmark goes back to the old adoration of the new moon.
- Parmalee (G.)** The coiffure of Roman women as shown on portrait busts and statues. (Rec. of Past, Wash., 1910, ix, 167-176, 4 pl., 2 figs.) Describes briefly 8 types (late Republic, early Empire, Flavian, "Matidia," "Faustina," "Lucilla," "Julia Domna," and type of III^d century A. D.), and the fixed type of the Vestal Virgins. Though hairpins were used, and combs also, they are not represented on the statues, etc. Ovid made sport of the infinite varieties of coiffure during the period of the early Empire.
- Pastor (W.)** *Die Megalithen.* (Z. f. Ethnol., Berlin, 1910, XLII, 601-606.) Notes on dolmens, passage-graves, stone-circles, "troy-towns," etc. Stonehenge represents "a brilliant renaissance of the earlier cult suppressed by the cult of the dead which came in from the South toward the end of the later stone age." The sun-cult was a product of the North. In the discussion (604-605), E. v. Baelz called attention to the megalithic area in Japan, where such monuments occur in several places. Hr. Schuchardt emphasizes the distinction between *graves* and *sanctuaries*.
- Patiri (G.)** *Le corna emblematiche in uso sin dall'età paleolitica.* (A. p. l'Antrop., Firenze, 1909, xxxix, 230-243, 1 pl.) Discusses emblematic horns, etc., and their use since the paleolithic period. Prof. P. thinks that "primitive man, in the midst of the virgin forests, a terrified spectator

of the jealous and tremendous combats of the *Bos primigenius*, could attribute mysterious energies and inexplicable powers . . . to these powerful bovine quadrupeds," and he was struck by the horns of the creatures, to which he attributed all the strength and valor displayed in the fight. As a symbol of physical force the horns became associated with religion (on the altar, etc.), were regarded as prophylactic against the "evil eye," etc. Many *pierres-figures* are "horns."

Patschovsky (W.) Volkstümliche Zimmer-, Garten-, Feld- und Waldpflanzen im Liebauer Tale. (Mitt. d. schles. Ges. f. Volksk., Breslau, 1909, XI, 186-203.) Lists with indication of uses, etc., 26 house-plants, various garden-plants, a number of kitchen-plants, 28 ornamental plants, some 60 plants used in folk-medicine, etc., besides a dozen more medical plants from the woods.

Peter (—) Unsere Pflanzen in Sage und Aberglauben. (Korr.-Bl. d. Ges. f. Anthropol., Brunschwg., 1909, XI, 47-55.) Treats of German folk-lore of plants,—peculiarities of form and color, doctrine of signatures, folk-medicine, peculiarly formed plants and superstitions connected therewith, mistletoe, hazel, divining rod, etc.

Pfeiffer (L.) Beitrag zur Kenntnis der steinzeitlichen Korbflechterei. (Ztschr. f. Ethnol., Berlin, 1910, XLII, 369-380, 1 fig.) Treats of basketry in the stone age: Raw material; hut-lining; the "bender" (traced back from the steel implement of to-day to the bone or horn ones of the stone age,—the so-called *bâtons de commandement* may have been such "benders"); trimming-knife (those of flints widespread in neolithic Europe); clamps, splitters, stretchers, etc., of modern basket-makers, and their neolithic representatives, flint scrapers (used rather in basketry than as polishers for spear and arrow-heads).

Pittard (E.) Rapport. (Bull. Soc. d'Anthrop., de Paris, 1910, VI^e s., I, 407-409.) Notes on condition of anthropology in Switzerland (the work of the Geneva National Institute of which Carl Vogt was president for many years; the influence of archeological discoveries on text-books of history, etc.) The Girl's High School in Geneva

has this recognition of anthropology in its curriculum: "Elementary ideas about the zoological position of man and the principal human races." See Schenk (A.).

Contributions à l'étude anthropologique des serbes du royaume de Serbie. (Ibid., 307-311.) Gives results of measurements of 60 Servians observed by the author. Stature (av. 1,655 mm.; range 1,520 to 1,830 mm.), cephalic index (av. 80.38, range 70.59 to 86.34; 34.8 % dolichocephals, 26.5 % brachycephals, 38.3 % mesocephals), nasal index (av. 73.09, range 59.26 to 87.28; leptorrhines 36.6 %, mesorrhines 60 %, platyrrhines, 3.3 %).

L'indice céphalique dans une série de 795 crânes valaisiens de la vallée du Rhône (R. de l'Éc. d'Anthrop., de Paris, 1910, XX, 24-27.) Gives results of study of 458 male and 337 female skulls from 9 localities in the valley of Conches. The average index of the males is 84.46, of the females 84.51; average index, 84.48, altogether 89% brachycephalic, 9.3% mesaticephalic, 1.6% dolichocephalic. The proportion of brachycephals is much greater among the females; there is a slight excess of mesaticephals and sub-brachycephals among the males. The people of Valais may be considered one of the most homogeneous of the "Celtic" (Alpine) peoples.

Polivka (G.) Neuere Arbeiten zur slawischen Volkskunde. 2. Süd-slawisch. (Ibid., 411-428.) Reviews and critiques of recent publications (books, periodical articles, etc.) in relation to the folk-lore of the South Slavs. *Slovenian* (works of Potočnik, Štrekelj, Koštičič); *Serbo-Croatian* (Meringer, Gjurjevič, Vatef, Zupanič, Trojanovič, Popovič, Maretič, Tomič, Gavrilovič, Misirkof, Corovič, Andrič Hadžiomerspahič, Vasiljevič, Drechsler, Magdič, F. S. Krauss, Skarpa, Medič, Mijatovič, etc.); *Bulgarian* (Kondakof, Šiškoč). Of special importance are the continuation of Prof. K. Štrekelj's collection of Slovenian folk-songs; Prof. T. Maretič's book on the Serbo-Croatian folk-epic; Tomič's studies of the Prince Marko epics; Dr N. Andrič's collection of Croatian woman-songs. The Servian Academy has instituted under the leadership of Dr T. R. Gjurjevič a systematic collection of customs, usages, etc., of

which two volumes have already appeared.

Pradel (F.) Ein altes Spiel. (Mitt. d. schles. Ges. f. Volksk., Breslau, 1909, xi, 56-58.) Treats of the children's sport of making flat stones skip as many times as possible over the surface of the water ("ducks and drakes" in England), a "game" known to the ancient Greeks. Often a wish is made and interpreted by the movements of the stone.

Puccioni (N.) Appunti di craniologia canariense. (A. p. l'Antrop., Firenze, 1909, xxxix, 115-130, 3 figs.) Measurements and descriptions of 9 male and 6 female skulls from Tenerife in the Canaries, now in the National Anthropological Museum, Florence. Discussion of views of Verneau, Meyer, Luschian, Shrubbsall, Sergi, etc. Dr P. believes that in the Canary islands types an anthropological composition resembling the ancient European has been preserved. The ancient Canarians were of European rather than of African origin. The Guanches resemble the Cro-Magnon type.

Retzius (G.) The so-called North European race of mankind. (J. Roy. Anthropol. Inst., Lond., 1909, xxxix, 277-313.) Treats of views and theories of Linnaeus, Blumenbach, Anders Retzius (who called attention to the diversity of race within the white variety of man and noted the marked prevalence of dolichocephaly in Northern Europe,—Teuton, and brachycephaly in the South), Welcker, Virchow, Broca, Huxley, Beddoe, Deniker, Kollmann, Bogdanof, Lapouge, Roesse, Ammon, Hultkrantz, Fürst, Broman, Nielsen, Ripley, Buschan, etc. Dr R. considers as proved the existence of these three European races: Northern European, dolichocephalic, blue-eyed, tall race; Middle European, brachycephalic, dark-haired, dark-eyed, short-statured race; South European, dolichocephalic, dark-haired, dark-eyed, short-statured race,—these are in reality "only sub-variations of a variety, viz., the so-called white race of man." He objects to the terms *Homo Europaeus*, *H. Alpinus* and *H. Mediterraneus*. The Neanderthal race is "a special variety of low standard." The present North European dolichocephalic race branch is "descended in direct line from the Cro-Magnon 'race.'" In Europe the brachycephals

have for a long time been suppressing the dolichocephals. There is no proof that the Middle European brachycephals are Mongoloid. Three problems need special study: Sphere of variability, laws of heredity of racial characters, fixedness of races, etc.

Ridgeway (W.) Fifty years of anthropology in Great Britain and Ireland. (Bull. Soc. d'Anthr. de Paris, 1910, vi^e s., t. 341-343.) Notes contributions of Darwin, Huxley, Maine, Tylor, Boyd Dawkins, Christy. The publications of the *Journal of the Anthropological Institute* and *Man* and the proposal for an Imperial Bureau of Anthropology are also referred to.

Ross (C. F.) Roman milestones. (Rec. of Past, Wash., 1910, ix, 8-15, 9 figs.) Treats of ancient (republican Roman milestones are very rare) and modern Roman milestones, their inscriptions (e. g., that of one of 184 B. C., on the Via Appia) which vary greatly in different periods and under different officials. Stones far from Rome conform to local conditions.

Rother (K.) Im Kräuterladen. (Mitt. d. schles. Ges. f. Volksk., Breslau, 1910, xii, 109-117.) Lists, in the ordinary (and also popular) and Latin scientific names, and the purposes for which the plants, etc., are employed in folk-medicine, the entire contents of an herb-stall in Breslau, some 80 items in all. Also (pp. 115-116) some additions to the list of flowers and plants in the Silesian peasants' gardens as given by Dr Olbrich; and (pp. 116-117) 20 peculiar folk-names of plants from the region of Camenz.

Rutot (A.) Un homme de science peut-il, raisonnablement, admettre l'existence des industries primitives, dites éolithes? (Bull. Soc. d'Anthr. de Paris, 1910, vi^e s., t. 447-473.) Argues, from the three methods of investigation, scientifically employed (observation, comparison, experiment), that the eoliths are really of human origin. The pseudo-eoliths of Mantes are also discussed.

Discours. (Ibid., 360-363.) Reports on anthropological activities in Belgium (work of Geological Society, Royal Natural History Museum), and particularly the discovery of the "eoliths." University extension lectures in prehistory are given in Brussels.

Sarasin (P.) Einige weitere Beiträge zur Frage von der Entwicklung des griech-

- ischen Tempels aus dem Pfahlhaue. (Ztschr. f. Ethnol., Berlin, 1910, XLII, 434-443, 5 figs.) Produces more evidence in favor of author's theory of the development of the Greek temple from the pile-dwelling and résumés recent literature of the subject. The theories of Fuchs, Muchau, etc., will not account for the Egyptian temple. The pile-dwelling lies at the bottom of Oriental ideas of the world as a "house" supported on pillars. The grooved columns of the Doric temple of Hercules at Selinunt and the grooved piles of a pile-dwelling in Borneo, figured by Nieuwenhuis, in his *Quar durch Borneo* (1897, Bd. II, Pl. 27) are remarkably alike. Dr S. holds also that the European house with "stories" (the upper part used for dwelling and sleeping, the lower and often only partly enclosed, for work-shops, etc.) is also the descendant of the pile-dwelling. How this may well be is illustrated by the "Rathaus" of Burgau (St Gall), figured on p. 438.
- Schachtzabel (A.)** Die Schwäbische Volks-tracht. (Globus, Brnschw., 1910, xcvii, 10-12, 3 figs.) Treats of the folk-costume of the people of the valley of the Schwalm, a river of the Weser area, who are assigned to the Chatti by Pfister in his *Chattische Stammes-kunde* (Kassel, 1880). The characteristic hats, caps, hair-dress, coats, stockings, etc., are now disappearing by reason of the decay of spinning, the influence of manufactured articles, etc. See also Chr. Lange's *Land und Leute auf der Schwalm* (Kassel, 1895).
- Schell (O.)** Der Klingelstock der Hirten. (Z. d. Ver. f. Volksk., Berlin, 1910, xx, 317-318, 4 figs.) Treats of the stick with iron-rings attached used as a cow-call by herdsmen: the *Hick* of the Westerwald, the *Klinge* of Westphalia, the *Klimperkeule* of horse-herders in Brandenburg, the *Ringel-ston* of Scandinavia, etc. It goes back to a high antiquity.
- Schenk (A.)** La science anthropologique en Suisse. (Bull. Soc. d'Anthr. de Paris, 1910, vi^e s., 1, 400-407.) Report on conditions of anthropology in Switzerland. Notes chiefly the discovery of lake-dwellings and the impetus given thereby, the work of Keller, Hie, Rüttimeyer, Kollmann, Studer, etc. Some branches of anthropology are taught at the University and Federal Polytechnic School (by Martin, Heierli), at Geneva (by E. Pittard), at Freiburg (by l'abbé Breuil), at Berne (by Zeller and Schürch), and at Lausanne (by Schenk). In the Canton of Vaud anthropology is beginning to enter the secondary schools. Prof. Schenk's own researches deserve mention. See Pittard (E.).
- Schmit (E.)** Présentation de quelques crânes néolithiques, trépanés recueillis à Congy. Marne. (Ibid., 502-509, 8 figs.) Treats of 6 skulls from a neolithic cave-burial near Congy in the Department of Maine, all bearing marks of trepanation.
- Schnippel (E.)** Leichenwasser und Geisterglaube in Ostpreussen. (Z. d. Ver. f. Volksk., Berlin, 1910, xx, 394-398.) Treats of East Prussian beliefs concerning "corpse-water" (i. e. water in which the corpse was washed), which was scattered or poured upon people as a good omen, etc. (water serves as a barrier against ghosts, etc.), "death-straw," "death-meal," "death-shirt," return of the dead, etc.
- Schrader (F.)** Questions d'Orient. (R. de l'Éc. d'Anthr. de Paris, 1910, xx, 73-85.) Anthro-geographical notes on the Oriental question resulting from the Turkish invasion of Europe in the 16th century and the Slavonic and Teutonic *Drang nach Osten*. The "Young Turks" are to be thanked for "having introduced into the Oriental question the new action of liberty and modern thought." Progressive "new Turkey" may settle gradually the tumult in the Orient.
- Schreiber (W.)** Zur Anthropologie der Karaimkinder Galiziens. (A. f. Anthropol., Brnschw., 1910, n. f., ix, 64-74.) Gives details of observation and measurement (stature, head and face measurements, cephalic indices, length of mouth and ear, length of trunk, color of hair and eyes, etc.) of 8 boys and 7 girls (from 8 to 13 years of age) belonging to the Karaims of the village of Halicz in eastern Galicia, compared with Christian and Jewish children of that region. In height they are closer to the Christian children, and are more brachycephalic than Christians or Jews; their facial index approximates that of Jewish children; their nasal index is narrower than that of both, and their mouth wider; the hair-color is Nr. 4 of Fischer, eye-color, 3 to 5 of Martin. Dr W. thinks that

- the view is incorrect that the Karaites are "Turkish Jews," who came from Constantinople to Galicia, in the 16th century. Indeed they were in Lemberg already in the 15th century. Perhaps *Judaei trocensis* and *Judaei tarcesensis* have been confused. Many Karaites were brought from Crimea to Troki in Lithuania in the 14th century. They speak "Tatar."
- Schochardt** (—). Buckelkeramik. (Z. f. Ethnol., Berlin, 1909, xli, 946-950.) Treats of "knob" pottery, its origin, distribution, etc. The pottery of N. W. Germany of the stone age, according to S., rests as to form and decoration on earlier basketry (i. e. the pottery of the megaliths and of Rössen especially); that of the south ("ribbon pottery"), goes back to the gourd a form lending itself to free decoration. One of the ornamental motifs of the old North German vessel is the presence of 4 bosses or little knobs on the side. These "knobs" appear later in Hungary and Asia Minor (Troy), and S. would assign to them a Teutonic development from neolithic pottery. (Cf. Lausitz pottery.)
- Schullerus** (A.). Siebenbürger Märchen. (Mitt. d. Verb. deutschen Ver. f. Volksk., 1909, Nr. 10, 8-11.) Discusses methods and points of view in the investigation of *märchen* in the last few years: Comparison of material (Köhler, Bolte), psychological analysis (Laistner, v. d. Leyden), stylistic research (Pesch, Weber), influence of medieval story-literature (Schönbach, Katona). Another field of research lies in the isolation and local phenomena, the geographical and cultural history of a limited area (Transylvania, e. g. where several races have lived together). Need of investigation and lines on which it should be carried out.
- Schütte** (O.). Der Schäfergruss. (Z. d. Ver. f. Volksk., Berlin, 1910, xx, 328.) Cites riddles and rhymed greetings of shepherds in Brunswick.
- Der Schimmelreiter, ein braunschweigisches Hochzeitspiel. (Ibid., 79-81.) Cites some 200 lines from a wedding-play "Der Schimmelreiter," given in the sixties of the last century at Cremlingen near Brunswick.
- Scraps of English folk-lore.** (Folk-Lore, Lond., 1910, xxi, 222-227.) Items by various collectors from Buckinghamshire, Essex, Lancashire, Surrey, Somerset, Yorkshire (pp. 225-227), relating to ghosts, luck and ill-luck, cure for whooping-cough, teething, taking lights out of house, disposal of Christmas greenery (to be burnt), squint-eye, lucky and unlucky actions, omens relating to birth and childhood, marriage, death, etc.
- Scraps of Scottish folk-lore.** (Ibid., 88-92.) Numerous items from Aberdeenshire (A. Macdonald), Argyllshire (M. Cartwright), Kirkcudbrightshire (H. M. B. Reid) and Lanarkshire (D. Robie), concerning marriage, "sleeping fever" and its cure, "white birds," luck and ill-luck omens, fairies and kelpies, love omens, "whuppiy scourie" (celebration of coming of spring).
- Selke** (G.). Probe glätzischer Mundart: die Kirmes. (Mitt. d. schles. Ges. f. Volksk., Breslau, 1910, xli, 117-119.) Gives phonetic text of a description of the church-festival in the dialect of the village of Neu-Weistritz (district of Habelschwerdt). This village lies on the border between the Oberdorf and Glatz dialect, but belongs to the latter.
- Sera** (G. L.). Nuove osservazioni ed induzioni sul cranio di Gibraltari. (A. p. l'Antrop., Firenze, 1909, xxxix, 151-212, 2 pl., 9 figs.) Gives results of author's study in London of the "Gibraltar skull"; discovered in 1863 and now in the Surgical Museum: Detailed description, chief measurements, discussion of peculiarities, comparison with other "fossil" skulls, etc. Dr S. believes that "the Gibraltar skull represents morphologically a pre-Australoid, and (if the Neanderthal represents a type posterior to the Australian), a decidedly pre-Neanderthaloid type,"—if not indeed tertiary man, the Gibraltar man was very closely related to him. According to Dr S., the Neanderthal man is late in anthropogenesis, and not correctly termed *Homo primigenius*. Certain morphological peculiarities (e. g. of the basis) in the Gibraltar skull indicate relationship with the gorilla and chimpanzee and "prove that the specialization of man occurred late, in the midst of a form of marked simian affinities."
- Siffre** (A.). A propos de la mandibule Homo heidelbergensis. (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., x, 80-81.) Note on character of dentition, marks of wearing, perhaps hypoplasia.

- Usure des dents. Sépulture néolithique de Montigny-Esbly. (Ibid., 82-87, 3 figs.) Describes difference in wearing between the two milk molars (upper right) in the jaw of a child of 6-7 years found in the neolithic grave of Montigny-Esbly, not discoverable in children of to-day, and not entirely explicable from the nature of food in use.
- Sinclair (A. T.) Folk-songs and music of Cataluña. (J. Amer. Folk-Lore, Boston, 1910, XXIII, 171-178.)
- Smith (S. C. K.) Mr Rackham and the fairies. (Oxf. and Cambr. Rev., Lond., 1909, No. 7, 88-95.) The author holds that "Mr R. does not create fairies, but takes them ready-made." He has failed in his illustration of *Alice in Wonderland*, "because there are no real fairies in Lewis Carroll's imperishable work." Mr Barrie's fairies, however, are "Shakespeare's fairies," and "the fairies of all time," and here Mr R. succeeds (e. g., *Peter Pan*). Mr R.'s fairies excel in naturalness and possibility. And fairies, however beautiful, are still uncanny.
- Sökeland (H.) Entwicklung der sogenannten römischen Schnellwege: Moderne Laufgewichtswage in ihrer einfachsten Form. (Z. f. Ethnol., Berlin, 1910, XLII, 493-513, 24 figs.) Treats of the development of the so-called "Roman steelyard," in Germany, etc. Among the latest forms is a specimen from Albania; the earliest form is seen perhaps in Schleswig.
- Sonnemark (K.) Zur Österreichischen, französischen und englischen Nationalhymne. (Mitt. d. schles. Ges. f. Volksk., Breslau, 1910, XII, 73-76.) Adds to the data in Bohn's *Die Nationalhymnen der Europäischen Völker* (Breslau, 1908). A third Austrian national hymn exists "Hymne auf Kaiser Ferdinand," by K. v. Hölzel (1855). Of the "Marseillaise" only 6 verses are due to Rouget de l'Isle, the last having been composed by the Abbé Pessonneaux, of Vienne in Isère, not by the poet Lebrun or the poet Chenier as has been maintained. Part of the text of the "Marseillaise" was taken by Rouget de l'Isle from Racine's "Esther" and "Athalie"; the melody he took from Guion's oratorio "Esther." The English national hymn was first played in 1745.
- Sørensen-Hansen (—) Rapport. (Bull. Soc. d' Anthr. de Paris, 1910, VI^e s., t. 364-365.) Report on condition of anthropology in Denmark (work of the Anthropological Commission in the investigations of physical characteristics; publications in the *Communications on the Anthropology of Denmark*).
- Steigelmann (A.) Les pétroglyphes des Alpes Maritimes. (R. de l'Éc. d' Anthr. de Paris, 1910, XX, 98-102, 3 figs.) Treats of pétroglyphs of the region of Lac des Merveilles, etc., and at Fontalba. The first consist of horns, lance-heads; the second of human figures, ox-heads and yokes, a man ploughing, crosses, hatched figures, concentric circles, etc. The author thinks that we must consider these pétroglyphs, the "horns" especially, very ancient *ex-voto*, the mountainous regions being the place where they would naturally be found.
- Sterjma (N.) Les groupes de civilisation en Scandinavie à l'époque des sépultures à galerie. (L'Anthropologie, Paris, 1910, XXI, 1-34, 62 figs.) Treats of the various regional "civilisations" of the gallery-grave period in Scandinavia, belonging entirely to the stone age, and corresponding to the Robenhausian epoch of western Europe. Dr S. recognises three different peoples (not to say races) in the period in question: A people of hunters and fishers in the east and North, who "preserved a good part of the epipaleolithic traditions," had no military organizations, and had relations over the Aland peninsula with the peoples of S. E. and E. Europe; in the Danish islands and on the adjacent coasts of the peninsulas of Jutland and Scandinavia "a people acquainted with apiculture," (possessing a well-developed military equipment, given to active navigation (on the North Sea chiefly), and having a higher civilization, resembling somewhat that of the people of the East; in the West a foreign population originally from Central Europe (drawn north to take possession of the amber-producing country), possessing a special civilization, which, at the close of the gallery-grave period; begins to influence the limitrophal Scandinavian peoples. In the course of this period a levelling of the differences in the interior took place. Megalithic civilization conquered Scandinavia from the East and the North. In the West differences between Jutland objects and the megalithic disappear. Interesting are the relations with Great Britain.

Stolyhwo (K.) Rapport sur l'état de l'anthropologie en Pologne. (Bull. Soc. d'Anthr. de Paris, 1910, vi*, s. 1, 392-395.) Notes on anthropology in Poland. Among names to be remembered are Glogow (physiognomist of the 13th cent.), A. Sniadecki (Univ. of Wilno), Joseph Majer (1808-1889, —first Polish anthropologist; gave at Cracow University in 1854 a course of lectures in anthropology; organized in 1874 an Anthropological Committee in the Academy of Sciences), J. Kopernicki (taught anthropology in the University of Cracow 1876-1891; author of many monographs), Talko-Hryniewicz (now professor of anthropology at Cracow, since 1908), and outside of Poland, Kubary (d. 1896), Chudzinski (d. 1897), and S. Zaborowski of Paris. At Warsaw a chair of ethnology is occupied by L. Krzywicki, and another of anthropology by K. Stolyhwo, both since 1906. The university at Léopol is soon also to possess a chair of anthropology. In the Polish language there exists a great mass of valuable anthropological literature.

Stückelberg (E. A.) Der Schutzpatron der Käser in der Lombardei. (R. d. Et. Ethnogr. & Sociol., Paris, 1909, II, 196-199, 1 pl., 6 figs.) Treats of S. Lucio, the patron of cheese-makers in Lombardy, his legend, worship, etc. *Lucio* is really *Hugo*, from which name with coalesced article the appellation in use since 1700 has arisen. See next title.

San Lucio (S. Uguzo), der Sen-nenpatron. (Schw. Arch. f. Volksk., Basel, 1910, XIV, 36-70, 13 figs., 2 pl., map, bibliogr.) Treats of San Lucio (Uguzo a poor herdsman in the Cawar-gna valley), the patron saint of the Alp-shepherds, legend, name (many Latin and Italian forms, from *Lucius* to *Hugutio*), festival day (July 12; also pilgrimage August 16), age and extension of the cult (already at Lugano in 1280; traces of cult in 55 places in the canton of Ticino and in northern Italy, —a list of these, pp. 56-63), expression of the cult (pilgrimages, brotherhoods), relics (in the S. Lucio Pass and at Puri), ecclesiastical approbation (Uguzo does not find place in the Roman martyrology), the pilgrimage-church of S. Lucio, pictures, etc., of the saint (earliest a fresco of 1280 at Lugano), attributes and objects associated with

him (list given, p. 68). St Lucius is patron of cattle, cheese, eyes, the lame, the poor, and helper against the plague. See next title.

San Lucio Hagiographisches und Ikonographisches. (A. f. Religsw., Lpzg., 1910, XIII, 333-343, 3 figs.) Treats of the lonely little mountain church of S. Lucio in the pass between Val Colla in Ticino and Val Caverina in Italy, a Milanese *enclave* in the bishopric of Como, the saint, the sanctuary, pilgrimages, offerings, history of cult, etc. S. Lucio is the patron of Alp-industries, particularly of milk and cheese-making, etc. (his symbol is a cheese). He is also a healer of eye-diseases. The shrine was visited last year by 1500 pilgrims.

Tagliaferro (N.) The prehistoric pottery found in the Hypogeum at Hal-Safieni, Casal Paula, Malta. (Ann. Arch. & Anthropol., Univ. of Liverpool, 1910, III, 1-21, 17 pl.) Treats of 20 classes (all but one ornamented). The lamps (if not imported) "bear testimony to the high degree of perfection attained by the ceramic art in Malta during the early bronze age." The variety of shapes in the vases is remarkable. The occurrence of buffaloes with long horns on two covers suggests Libyan origin or influence.

Tamblin (W. F.) British druidism and the Roman war policy. (Amer. Hist. Rev., N. Y., 1909, XV, 21-36.) Author doubts the claim of British druidism to a place in sober history. Gallic druidism is well-attested but it was not representative or Pan-Celtic.

Tarbell (F. B.) Catalogue of bronzes, etc., in Field Museum of Natural History. (Field Mus. Nat. Hist. Publ., 130, Anthr. Ser., VII, Chicago, 1909, 91-144, 81 pl.) Lists with descriptions 12 pre-Roman (Greek, Etruscan) and 288 Roman (chest, couches, tables and stands and other furniture, lamps, candelabra, censer, lamp-rests, lanterns, braziers, water-heaters, cooking-stove, pails, mixing-vessels, amphoras, ewers, small pitchers, handles of vessels, basins, oval bowl, fruit-dishes (?), strainers, saucepans, kettles, moulds, other kitchen utensils, miscellaneous and chiefly domestic articles, balance and weights, steelyards, musical instruments, industrial implements, surgical implements, etc.) all reproductions of originals in the National Museum of

- Naples. The great majority of these Neapolitan bronzes come from the Campanian cities buried by the eruption of Vesuvius in 79 A. D.
- Tetner** (F.) *Begräbnis, Feste und Fasten bei den ostpreussischen Philipponen 1839.* (Globus, Brnschw., 1910, xcvii, 331-335.) Describes, after Chapters 19-22 of M. Gerss's *Ms. Die Philipponen*, burial ceremonies and customs, festival-days (list, pp. 332-333), feasts, fasting, etc., as in vogue about the year 1839.
- *Die Brautwerbung der Balten und Westslawen. Volkskundliche Streifzüge an der Ostgrenze Deutschlands.* (Ibid., 1910, xcvi, 154-158, 170-174.) Treats of wooing among the Balti and western Slavs. Besides accounts from Hieronymus and Johannes Maletius (1551), Gerss, Lepner, Pohl, etc., Dr T. describes the wooing customs in connection with 5 periods of the bride's life: Announcement of nubility (chiefly dress and ornament), "showing the bride," love-making, wooing and betrothal.
- Thomson** (A.) *Anthropology at the University of Oxford.* (Bull. Soc. d'Anthr. de Paris, 1910, vi^e s., 1, 343-345.) Notes labors of Tylor, Pitt-Rivers, etc. Oxford was the first English university to recognize the claims of anthropology as a branch of higher education (E. B. Tylor, Reader in 1884, was made full Professor in 1895). A diploma is now conferred in Anthropology, after adequate and appropriate examination. The Pitt-Rivers collection, presented in 1885, has grown and is now an important center for study and research.
- Treblin** (M.) *Zur Volkskunde im Kirchspiel Langenöls, Kreis Lauban.* (Mitt. d. schles. Ges. f. Volksk., Breslau, 1909, xi, 93-94.) Notes on folk-lore relating to baptism, women dying in child-bed, the Lord's Supper, items of folk-medicine, etc.
- Trechmann** (C. T.) *Note on the occurrence of a so-called pigmy or midget implement made from a quartz crystal in a neolithic lake-dwelling on the Greifensee, near Zürich.* (Man, Lond., 1910, x, 13-14, 1 fig.) This occurrence of a "pigmy" implement at one of the earliest Swiss lake-dwellings is of considerable interest. The specimen, which is quite characteristic, was found in November, 1906.
- Tricomi Allegra** (G.) *Sul peso dell'encefalo umano e delle sue parti nei Messinesi.* (Ann. di Nevrol., Napoli, 1907, xxv, 300-357.) Gives results of weighings (Chiarugi method) of 100 brains of subjects from the province of Messina. The average was 1238.67 gr. Male brains were heaviest between 26 and 30 years, female between 30 and 40. Dr T. A. concludes that men of equal stature exceed women in average brain weight; individuals of lower stature exceed those of higher in average brain weight; the average weight is directly proportional to the cephalic index; no influence of sex or of age can be seen in the predominance of one hemisphere or the other.
- Vauvillé** (—) *Cimetière gallo-romain des Longues-Raies sur le territoire des Soissons.* (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., x, 215-222, 4 figs.) Describes objects (pottery of various sorts, glass vessels, iron and bronze objects and ornaments, Roman coins, etc.) found in 1900 at the Gallo-Roman burial-place of Les Longues-Raies, explored also 1897-1899. Christian burials probably took place here up to the fifth century.
- van Veerdeghe** (F.) *Oude aardigheden over de Vrouwen.* (Volkskunde, Gent, 1910, xxi, 22-30.) Cites numerous facetiae about women from *D'excelentie van d'edele Maegden*, the eighth book of J. B. Houwaert's *Pegassides Pleyn ende den Lust-Hof der Maegden*.
- Vincent** (A. et G.) *Recherches sur des ravinelements artificiels de l'époque anté-romaine.* (Ztschr. f. Ethnol., Berlin, 1910, xlii, 381-389, 14 figs.) Treats of *ravinelements*, groups of ditches in various parts of Belgium, dating from pre-Roman times, and having, according to MM. V., nothing to do with fortifications, but being connected with religious rites and ceremonies, the only thing that will account for their arbitrary character, etc.
- *Künstliche Gräbensysteme aus vorrömischer Zeit in Nordwesteuropa.* (Globus, Brnschw., 1910, xcvi, 181-183, 8 figs.) Describes pre-Roman systems of dikes and ditches particularly in the forest of Soignes (east of Brussels), in Hainault, Liège, in the Ardennes, in the Eifel country, in Luxembourg, and in German Lorraine. They are probably of some religious significance. Same data as previous article.

- Vinson (J.) Quelques données anthropologiques sur la linguistique basque. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., 1, 150-152.) Discusses the names of the months and relationship names and their significations in the Basque language. According to V., the Basques counted formerly 6 seasons of 2 months each. Waters, sowing, cold, leaves, heat, harvest. The old Basque year ended in September. The etymologies of certain relationship-names lead V. to conclude that the Basque family was polyandrous of a collective order with maternal filiation. But the etymologizing of Basque words is still too hazardous for many such arguments.
- Viré (A.) Ossuaire gaulois de Lacave, Lot. (Ibid., 73-75.) Brief account of a Gaulish ossuary (mélange of human bones, fragments of pottery, etc.) belonging to the end of the period of Gallic independence. The remains are perhaps to be attributed to the defenders of Uxellodunum (Puy d'Issolu, only 15 km. from the cave-burial in question).
- Volkov (T.) Rapport sur les sciences anthropologiques en Russie. (Ibid., 396-400.) Notes on anthropology in Russia. In 1887 Bogdanov founded the Anthropological Section of the Society of Friends of the Natural Sciences and published his work on the *kurgans* of Moscow. His pupil Anutchin became Professor of Anthropology in the University of Moscow in 1884; in 1888 the Russian Anthropological Society was founded, also a chair of Geography and Ethnography at St Petersburg; in 1900 the Russian Anthropological Society began the publication of the *Russian Anthropological Journal*, in which have appeared many valuable anatomical, anthropometrical, ethnographic and ethnological monographs; others have been published in the *Proceedings* (and, since 1905, in the *Yearbooks* of the Anthropological Society of St Petersburg; others still in the *Works* of the new Anthropological Society, founded at St Petersburg in 1893, particularly the anatomical monographs, of Tarnetzký, etc. At present courses in anthropology exist only at Moscow, St Petersburg and Kharkov. Besides those at Moscow and St Petersburg, the Museum of Minusinsk, Kiev, Odessa, Tiflis, Poltava, etc., deserve mention.
- Wace (A. J. B.) A modern Greek festival at Koroni in Messenia. (Ann. Arch. & Anthropol., Univ. of Liverpool, 1910, III, 22-25, 1 pl.) Treats of relics, church and festival. Of the *ikons*, "two are Christian, but they are graven images (crucifix and Madonna with Child) which the orthodox church should ban; the other two (a Hellenistic terra-cotta figurine; and a bronze Greek weight of the 4th or 3rd century B.C.) are frankly pagan." The *ikons* were found in an old cistern as the result of the dream of an old woman in 1896.
- Waldeyer (W.) L'anthropologie en Allemagne. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., 1, 337-340.) Brief report (in German) on the condition of anthropology in Germany. German Anthropological Society, Berlin Anthropological Society, progress of Museums (the collections of crania in Berlin, e.g., number some 12,000 specimens), periodicals (the newest is *Mannus*) devoted to prehistory. Dr W. thinks that what Germany most needs is regular anthropological chairs at the Universities.
- Weber (H.) Die Stornsdorfer Volkslieder. Der Liederschatz eines Vogelsberger Dorfes. Gesammelt in den Jahren 1907-1909. (Hess. Bl. f. Volksk., Lpzg., 1910, IX, 1-225.) Gives texts and music of 177 folksongs (historical songs 1-12, war-songs and soldiers' songs 13-22, songs of professions and occupations 23-32, ballad-like songs 33-55, love-songs 56-134, "Schürzlieder" and travel-songs 135-141, marriage and cloister songs 142-147, miscellaneous songs 148-152, jest and riddle songs, 153-161, "Triller" 162-177) constituting the folk-achievement in this field of the village of Stornsdorf in Vogelsberg, all obtained orally,—they represent a period of about 30 years. The material is rich and manifold.
- Wehrhan (K.) Die Pferdesegnung auf dem Laurenziberge bei Gau-Algesheim im Rheingau und rheingauische Wachsotive. (Globus, Brnschw., 1910, xcvii, 133-136, 3 figs.) Treats of the blessing of horses, the procession and festival connected therewith at the village of Laurenziberg, during the week previous to and including St

- Lawrence Sunday. The ceremonial of blessing these animals probably arose as the result of some terrible plague such, e. g., as occurred shortly after the Thirty Years' War. The important day is the Sunday nearest the 10th of August. Waxvotive-gifts of horses and other animals are described and figured.
- Die Kapelle St Amorsbrunn bei Amorbach im Odenwalde. Ein Beitrag zur Quellenverehrung und Votivforschung. (Ibid., 282-285, 3 figs.) Treats of the chapel of St Amorsbrunn at Amorbach, once the seat of a famous Benedictine Abbey,—earlier known as *Thorbrunn*, etc. The votive offerings preserved in the chapel include wax-figures as large as new-born children, the shrine being reputed helpful for women's troubles and diseases.
- Weinitz (F.)** Die lappische Zaubertrommel in Meiningen. (Z. f. Ethnol., Berlin, 1910, XLII, 1-14, 4 figs., 1 pl.) Treats of a Lapp shaman's drum in the collection of the Henneburg Archeological society at Meiningen, with discussion of the shaman and his art among the heathen Lapps (the mountain Lapps are thought to be the cleverest "sorcerers"). The drum is used to help out the shaman in his "magic," "prophesying," etc., and also for the purposes of excitation by drumming, "sending into sleep," etc. A real *koïad* or shaman must have been born with "teeth in his mouth." The Meiningen drum is not unique. The 40 figures upon the skin are listed on page 11 and the Lapp drums in other collections, to the number of 54 noted (p. 11). In the "Linnaeus-Portrait" book of Tullberg, published in connection with the Linnaeus celebration in 1907, is a picture of the great naturalist in Lapp costume, with a shaman's drum; and in a Ms. in the Tibetan collection of the Royal Library in Berlin, is a picture of two Bon-priests, one of whom holds a shaman's drum,—the Bon-religion is pre-Buddhistic.
- Weinreich (O.)** Wunderseltzame Recept. (Hess. Bl. f. Volksk., Lpzg., 1910, IX, 126-138.) Gives numerous examples of facetious and jesting charms and incantations, sometimes quite vulgar in part, from the facetiae, jest-books, preceptoria, anecdote-collections, sermon-books, etc., of the 16th and 17th centuries and later. An addition to the material in Oesterley.
- Ein bewährter Feuersegen. (Ibid., 139-142.) Gives text of "Ein bewährter christlicher Feuer-Sege[n]," published at Cologne in 1733, with notes on the language, variants, etc., of the fire-charm.
- Westropp (T. J.)** A folk-lore survey of County Clare. (Folk-Lore, Lond., 1910, XXI, 180-199, 338-349, 2 pl.) Treats of place-names and legends of places, banshees (pp. 186-191), the death-coach, fairies and fairy forts and mounds (pp. 194-199), will-o'-the-wisps and corpse-lights, underground folk, water-spirits and mer-folk, ghosts and haunted houses (pp. 343-349).
- White (G. E.)** Religious uses of food in Turkey (Hartf. Sem. Rec., Hartf., Conn., 1910, XX, 97-102.) The sacrifice is offered, and the food afterwards eaten by the people. Sacrificial meal, "soul food" at death, heathen relics in the Christianity of the Eastern Church, St George, etc.
- Wlazemsky (—)** Les slaves orientaux. (Bull. Soc. d'Anthr. de Paris, 1909, V^e s., X, 273-296.) Résumés the author's anthropometric studies of students of Russian (3,290 m., 318 f.), Servian (4,260 m., 454 f.) and Bulgarian (1,080 m., 1,098 f.) gymnasia, between the ages of 10½ and 18½ years. The material seems to be the same as that earlier published by Prince W.
- Williams (H.)** Revolution and language. (Oxf. & Cambr. Rev., Lond., 1910, No. 9, 49-67.) Shows that in Russia "to a large extent during the past two years linguistic development has gone in the direction of making words used hitherto exclusively by the intelligentsia the property of the masses of the people: Constitution, Respublika (once folk-etymologized as *Ryesh-publiku*, "cut the public to pieces"), *svoboda* (liberty), "home-rule" (Russianized phonetically, and many parliamentary and political terms, names of political parties, *majorist*, *minorist*, quite a number derived from English, others from German and French; words for labor-troubles; *kooligan* (naturalized and "in much more common use than it is in English"); newly-coined terms like *massorka* (mass-meeting), *mas-zovik* (one who attends a mass-meeting), etc.; also abusive words and expressions, etc. The Russian language has recently had "a sudden enrichment,"

- which argues well for the birth of a new form of European culture.
- Wimmer (J.)** Italiens Adriaküste in ihrer geschichtlichen Bedeutung. (Globus, Brunschwg., 1910, xcvi, 136-142.) Treats of the historical significance of the Adriatic coast of the Italian peninsula, the development of the settlements in this region (Spina, Adria, Aquileia, Ravenna, Venice, Rimini, Pesaro, Sinigaglia, Ancona, Sipontum, Salapia, Barletta, Trani, Bari, Brindisi, Otranto, etc.) and their decay in many cases.
- Wutke (K.)** Schlafen in der Bedeutung von Verrücktsein. (Mitt. d. sch. les. Ges. f. Volk., Breslau, 1909, xi, 214-215.) Notes the use in the 16th century of *schlafen* (sleep) in the sense of "to be crazy." Grimm's *Dictionary* has only "die schlafende Sucht."
- Zaborowski (S.)** Hellènes barbares et Gréco-Pélagés civilisés. (R. de l'Éc. d'Anthr. de Paris, 1910, xx, 229-242.) According to Z., the Hellenization of Greece occurred irregularly and slowly, at least up to the time of the Dorians, who were "the pure, genuine Hellenes." Before the arrival of the Hellenes some influence of the brilliant civilization of Crete had been felt on the continent. In the time of Herodotus, even Pelasgi (non-Aryan aborigines) still survived in parts of Greece. The mass of the Ionians "was formed of Pelasgi Hellenized by a warlike aristocracy"; the Athenians were largely Pelasgian. If Athens had not preserved it, Cretan civilization would have entirely disappeared under the régime of the rude, barbarian Dorians, who did not differ from the proto-Aryans, and whose mind was typified by the meager culture-ideals of the Spartans. The physical type of the barbarous Hellenes, if preserved anywhere, is to be found in the Peloponnesus.
- L'origine des Lapons d'après leur langue. (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., x, 211-214.) Holds that the Lapps are not to be too closely allied with the Samoyeds, that their presence in Sweden in the neolithic period is not yet proved (such brachycephaly as is there noted is not Lappanoid), and that the primitive home of the Lapps was south of Finland, where they underwent some Lithuanian influence. See Nippgen (J.).
- Ziegler (H.)** Die deutschen Volksnamen der Pflanzen und die Verwandtschaft und Vermischung der deutschen Volksstämme. (Z. d. V. f. Volksk., Berlin, 1910, xx, 18-35.) Treats of German popular names of plants in connection with the relationship and intermingling of German peoples. Z. has studied these names in 9 localities, and lists are given (pp. 30-35) of "village-names" and those known to wider territories. The distribution of plant-names affords information as to "colonization" and the ethnical composition of folk-groups, the exact origins of particular groups, folk-migrations (local and recent) and adds to the criteria of resemblance and distinction.
- Zimmera (A. E.)** Was Greek civilization based on slave labor? (Sociol. Rev., Lond., 1909, ii, 1-19.) Z. argues that while the Greeks had slaves, "the conditions which are the natural results of a system of slave labor did not exist in Greece; in other words, the Greek city-state was not a slave state." In Greece apprentice-slavery predominated over chattel-slavery.
- Zuidema (W.)** Amsterdamer Huisersagen. (Z. d. Ver. f. Volksk., Berlin, 1910, xxi, 72-73.) Gives 8 brief house-tales from Amsterdam: The house with the (six) heads; The house with the three heads; The house with the golden chain; The inerascable blood-sign; The Atlas statue on the palace; The flies bring it (murder) to light; The weepers' tower; The picture of the beggar who became rich. There is evidently much interesting folk-lore connected with house-signs and the like.

AFRICA.

- Ankermann (B.)** Bericht über eine ethnographische Forschungsreise ins Grasland von Kamerun. (Z. f. Ethnol., Berlin, 1910, xlii, 289-310, 15 fgs.) Gives results of journey of author and wife through the grass-land of the Cameroons in 1907-1909 particularly Bali. Physical characters (av. 1,750 mm.; women small-statured; darker and lighter types; reddish tone also), character and intellect (lying; tales, legends, and riddles numerous; A. collected 300 tales in Bali, chiefly animal-stories in which the dwarf-antelope is the clever beast, the silly ones being the leopard and elephant; the heroes of

the myths play no rôle in religious festivals and have no cult; cult of spirits of dead; festivals public and private), houses (type with square foundation and pyramid or cupola roof; "men's house," "women's house," chief's house, etc.), villages and towns (Fumban ca. 18,000, Bail 8,000 inhabitants), market-place (center of village), chief and his power, daily life, art and industry (pottery; cooking-pots, etc., made by women, pipes by men; wood-carving,—door-posts, bowls, seats, masks, drums, etc.; stone animal-figures on floor of house; basketry; iron-working still flourishing; bronze-casting in two places Bamum and Bagam only,—ends of drinking-horns a specialty at Bamum), etc. The grass-land is culturally as well as linguistically a transition-area (West Africa, the Sudan, and East Africa).

Arnett (E. J.) A Hausa chronicle. (J. Afric. Soc., Lond., 1910, ix, 161-167.) Translation from a Ms. of considerable interest, known in the Hausa country as *Daura Makas Sarii*, containing the legend of Daura (the Hausa belief as to the origin of their race), which is of considerable antiquity. A list of 41 Amirs of Katsina (1456-1902 A.D.) is given, besides the origin-legend.

Astley (H. J. D.) A sacred spring and tree at Hamman R'Irha, Algeria. (Man, Lond., 1910, x, 122-123.) At this sacred pool are performed ritual acts and ablutions, and strips of cloth torn from clothing are hung on every branch of one of the trees; around the pool are pots and sherds (offerings originally). The presiding genius is the spirit of a *marabout*, who died a few generations ago. Hamman R'Irha is the Roman watering place of ancient times, *Aquae Calidae*.

Atgier (E.) Les Touareg à Paris. (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., x, 222-243.) Ethnographical, ethnological, anthropological, and anthropometric data concerning the "Tuareg" on exhibition in Paris. Habitat, dwellings (camel-hair tent), exercise (imitation caravan, make-believe fight, dances), dress and ornament, weapons, dromedary and harness, etc., food and drink. Arabs of S. Algeria (Uled-Nails), negroes of Timbuctoo, Chamba, Tuareg, Negritized Tuareg and Negro-Tuareg are repre-

sented in these "Tuareg." The anthropometric measurements are given for one Chamba, one Tuareg, 3 Negritized Tuareg, 2 Negro-Tuaregs, all of whom except the second are dolichocephalic or sub-dolichocephalic. The Berbers or Tuareg (here much mixed with negro blood) are, according to Dr A. "the Aryans of Africa," of like origin with those of Europe.

Avelot (R.) Le pays d'origine des Pahouins et des Ba-Kalai. (Ibid., 61-66.) Capt. A. seeks to show that the Pahouins (originally in some region near the Upper Nile) were driven thence by Bantus, driving before them in their migration the Ba-Kalai into the valley of the Ogowe. The Ba-Kalai in question were descendants of the Ba-Kalai driven out of their country by the A-zande. According to Capt. A. the Pahouins, anthropologically and ethnographically, but not linguistically, belong with the Monbuddo-group.

Bieber (F. J.) Durch Südatiopien zum Nil. (Globus, Braunschwg., 1910, xcvi, 69-74, 85-90, 15 figs.) Account of trip through southern Ethiopia to the Nile in 1909, with notes on the native tribes and peoples, Harar, the metropolis of the Mohammedan eastern Galla country, Adis Ababa with its cave-dwellings, rock church of Eka Michael, etc., the Emperor Menilik, etc.

— Das Land Kaffa und seine Bewohner: Beiträge zur Ethnographie Nordost-Afrikas. (R. d. Ét. Ethnogr. et Sociol., Paris, 1909, ii, 225-249.) Treats of names of country, people, tribes, names of neighboring tribes and names given by them (the people are *Kafficho*, "those of Kaffa"); situation, boundaries and divisions of the country, and lists of these; divisions of the people (primitive inhabitants, not very numerous: Mandsho, She, Najo; later immigrants: the Gonga or *Kafficho*, the Amaro and the Nagado; smaller divisions; castes; foreigners); mental character, etc. (sense of sight very well developed, smell and hearing well developed, touch little developed, taste spoiled by excessive use of red pepper and tobacco-smoking; memory good, imagination little developed; very expressive of feelings, etc.; proud; loyal; industrious); population (about 500,000); settlements, villages, towns, etc. (oldest town in Kaffa was founded ca. 1400-1435 A. D.).

- Blackman (A. M.)** Some Egyptian and Nubian notes. (Man, Lond., 1910, x, 25-29, 7 figs.) Notes on famous tombs (miracle of the appearance of the Sheik Dakrûri in his tomb at Behnasa; tomb of the 7 maidens; tomb of Abu Sanraq, etc.), superstitions about twins (become cats at night), barrenness amulets and cures (hair from back of neck of hyena; blood spilling), fox as birth-amulet, hoopoe heart eaten raw to make one a clever scribe, bridal and wedding customs, stone-circles with offerings (sick people sleep inside the circle), circumcision rags hung up in Sheik's tomb at Qurna, near Luxor, other famous tombs, charma, and amulets, door-plates to insure bread, etc.
- Bloch (A.)** Présentation de portraits de jeunes nègresses pour faire voir la forme particulière de l'aurole de la mamelle. (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., x, 141-142.) Treats of the convex projection of the mammellar aureola in young negroes as evidenced in portraits from Dakar. This convex form occurs also among natives of New Guinea, the Caroline Is., etc., and has been found among Sicilian Italians and Spaniards.—Bloch suggests negro admixture. The convex aureola occurs particularly at the age of 12-16 years.
- Boone (C. C.)** Some African customs and superstitions. II. On the Congo. (So. Wknn., Hampton, Va., 1910, xxxix, 625-627.) Notes on prevalence of "don't" (*bika*), methods and words of salutation and greeting, rarity of association of men and women together, family-customs, wife-getting, and marriage.
- von Boxberger (L.)** Wandertage auf Mafia. (Globus, Brnswgw., 1910, xcvi, 197-205, 8 figs., map.) Treats of the island of Mafia (visited by Dr v. B. in 1909) and its minor islands off the coast of German E. Africa, its people, etc. On the island of Djuani are the ruins of Kua, a settlement founded about 1000 A. D. by Asiatic colonists from Shiras, and for a long time capital of the Mafia group. The attack of the Sakalavas caused its abandonment in the beginning of the 19th century. On Mafia there are as yet only 3 European planters. See also Dr O. Baumann's *Die Insel Mafia und ihre Kleinen Nachbarinseln* (Leipzig, 1896).
- Brandenburg (E.)** Anthropologisches aus Tripoli. (Z. f. Ethnol., Berlin, 1910, xlii, 148-150, 1 fig.) Gives color of eyes and hair of 43 Tripolitan Arabs of all classes (from city and oasis) between the ages of 10 and 30 (male 35, female 8).—only women of the lowest and worst classes could be observed.—who had not dark-brown eyes and at the same time black hair. Actual count made them 8.5 % of all Arabs seen. Also notes on two beggar-dwarfs (man 37 years old, girl 14), said to belong to a village in the "Jebel" beyond Tripoli. The man measured 109 and the girl 96 cm., and both were in good health.— Bericht aus Tripoli. (Ibid., 578-580, 1 fig.) Describes a cripple (9 yrs. old), son of an Arab peasant of Chidua, said to have been born so.—his mother was frightened at seeing a cow give birth to a crippled calf. The child (normal in health and intelligence) goes on all fours.
- Bright (R. G. T.)** An exploration in Central Equatorial Africa. (J. Afric. Soc., Lond., 1910, ix, 224-232, 2 pl.) Treats of the work of the British section of the Uganda-Congo Boundary Commission in the western frontier districts of the Uganda Protectorate in 1907-1908. Contains notes on "dug-outs," Toro war-dance, Bavira women, the Bahima tribe, etc.
- Broad (W. H.) and Paterson (—).** Report on a Nigerian skull. (Ann. Arch. & Anthropol., Univ. of Liverpool, 1910, iii, 71-72.) Description and measurements (ceph. ind. 69.7, cap. 1275 c.c.) of young adult male cranium of negroid character.
- Brown (W. H.)** Circumcision among the Bageshu, a tribe on the N. W. limits of Mount Elgon, Uganda Protectorate. (Man., Lond., 1910, x, 105-106, 1 fig.) Describes operation as observed at Mbale, in July, 1909, on young men about 18 years old, the accompanying dances, etc.—"the women look on and take part in the dances."
- Brutzer (E.)** Tierfabeln der Kamba. (A. f. Anthropol., Brnswgw., 1910, n. f., ix, 23-42.) German texts only of 18 animal-tales of the Kamba, of British East Africa: Hen and guinea-hen; Hare, hyena, and lion; Hyena, lion, and hare; Leopard, antelope, and hare; Hare and all the animals; Stork and frog; Man and woman hyena; Hyena; The wild-cat Kitzuli and the related

- wild-cat Ikandzanga; The leopard child and the antelope child; The *júaa* (a species of bird); The antelope; The hawk and the tortoise; The *ngaka* bird; The chameleon and the *tyatolo-ka*; The dog-ape and the bee; The dog-ape and the woman; The hawk and the hen. The large animals (elephant, lion, leopard, rhinoceros, hyena) represent force and might, and opposed to them are the wild-cat, antelope, gazelle, monkey, hare, etc. The hare and hyena are favorite figures in these stories,—they typify two marked characteristics of the Kamba, cunning and greediness. The hare is the embodiment of cunning and slyness. The chameleon represents truth, but, on account of his slowness, too late.
- Burns (F. M.)** Trial by ordeal among the Bantu-Kavirondo. (*Anthropos*, St. Gabriel-Mödling, 1910, v, 808.) Note on poisoned-beer ordeal for settling cases of homicide (the only manner of its use now prevalent) among the Bantu-Kavirondo.
- de Calonne Beaufaict (A.)** Zoolâtrie et Totémisme chez les peuplades septentrionales du Congo-Belge. (*R. d. Ét. Ethnogr. et Sociol.*, Paris, 1909, II, 193-195.) Notes on zoolatry and totemism among the Asande, Mangbetu, Mogbwandi, Mabinza, Banggala, Ababua, etc., of the Belgian Congo. Both collective and individual "protectors" occur; also tabus, zoolatric rites of a positive nature, etc.
- Cayzac (P.)** La religion des Kikuyu, Afrique Orientale. (*Anthropos*, St. Gabriel-Mödling, 1910, v, 309-314.) Treats of ideas of God (Ngal, Molungu, master of all; two sorts *black* and *white*), spirits (*ngoma*, "those who sleep"; the dead to whom all private ills are attributed), origin of human race (boy and girl had three sons, from whom are descended the Kikuyu and Kamba, the Masai, and the Ndorobo), morality and sin (*noki*, "sin," = violation of law, custom, ceremony, rite, etc.), ethnic mutilations (circumcision of boys and girls; removal of incisor), animals (certain ones, carnivora in general have relations with the spirits; animal tabus), shamanism (the *mogo* is priest, doctor, fortune-teller, etc.). No totemism, or at least only its germs or traces of it. Some of the arguments and answers of the natives are given.
- Chisholm (J. A.)** Notes on the manners and customs of the Wlamwanga and Wuva. (*J. Afric. Soc.*, Lond., 1910, IX, 360-387.) Treats of origin legend (great man, named Musyani, culture-hen, from Wisa country), houses and villages, food, activities; religious ideas: God (*Lesza*, probably "nurse," "food-giver"), thunder and lightning ("God coming down to earth"), soul-lore, sacrifices (none made to God; priest and family sacrifices to spirits of chiefs and ancestors), offerings of first fruits to spirits, specimen of prayer to spirits (pp. 366-367), witchcraft (poisonous medicines) and its punishment (burnt after ordeal), divination (examples), poison ordeal, charms (received from "doctor"), fetishism, sickness (chiefly due to spirits and witchcraft) and treatment, death and burial (pp. 377-380), initiation ceremony (no rites for males at puberty; seclusion of girls), marriage, family-relationships (traces of totemism in family names), superstitions (pp. 384-387), rights of property, etc.
- Claus (Dr.) u. Meinhof (K.)** Die Wangömwa. (*Z. f. Ethnol.*, Berlin, 1910, XLII, 489-497, 1 fig.) Pages 489-494 contain ethnological notes (houses, clothing and ornament; circumcision, both sexes; death and burial; physical characters) and a vocabulary of 90 words of the language of the Wangömwa of the Ungömwa region of the Ugogo plateau; pages 494-497 notes on the vocabulary by K. Meinhof, pointing out Bantu loan-words (?) and making comparisons with M.'s Mbulunge and Mbugu vocabularies. M. finds the Wangömwa language to be "Hamitic."
- Cole (W. E. R.)** African rain-making chief, the Gondokoro district, White Nile, Uganda. (*Man*, Lond., 1910, X, 90-92.) Describes "rain-making" as observed by the author among the Bari, Luluba, Lokoia, Latuka, etc. The best-known "rain-maker" is perhaps Bombo, the paramount chief of the Bari; others are Rualla of the Luluba, Lummeln of the Lokoia, and Lukunyer of the Latuka. Unless it carries with it the chieftainship, the post of "rain-maker" is very precarious.
- Collins (G. N.)** A primitive gyroscope in Liberia. (*Nat. Geogr. Mag.*, Wash., 1910, XXI, 531-535, 3 figs.) Describes a gyroscopic toy in use among the Golaha,— "certain members of this

- primitive tribe have developed a very remarkable skill in manipulating this top-like toy, which they keep spinning for any length of time in midair merely by whipping it." The toy is made from the hard-shelled spherical fruit of a species of *Balsamocitrus*.
- Conditions in Liberia.** (Ibid., 729-741, 9 figs.) Notes from the Report of the U. S. Commissioners to Liberia. Messrs R. P. Falkner, G. Sale and E. J. Scott. There are no revolutions. Liberia is not bankrupt, nor a failure in self-government. The Liberians have advanced, not retrograded in civilization. See Forbes (E. A.).
- Crahmer (W.)** Zur Frage der Entstehung der "Beninkunst." (Globus, Brunschwg., 1910, xcvii, 78-79, 1 fig.) Argues for Hindu Virathadra pictures as the suggestion motif for the Benin bronze plates (on p. 78 is represented one of these from Bandora in Thana, Bombay). C. believes the relations between Africa and Asia to be very ancient, the eastern coast of the dark continent having been the gateway for Asiatic influences in prehistoric times. Later influences such as those found on the Guinea coast, seem to have started from the west coast directly, which they must have reached by sea. There is much evidence of influences from India in that region.
- Daniel (F.)** Étude sur les Soninkés ou Sarakolés. (Anthropos, St Gabriel-Möding, 1910, v, 27-49.) Treats of the Soninkés (Sarakolés in Soninké means "white man") a Mandé people of the Senegal, etc. Religion (all Moslems, chiefly of the Tidjania sect, a few of the Kadria), language (Mandé dialect; a few speak and write folk-Arabic), social organization (*fan-kamon*, ruling and rich class; *plebs*), family (polygamy; patria potestas), marriage, birth, circumcision and excision, death, funeral, succession, personal names (generally Arab or taken from the Koran), salutations, totemism (*tuuma*), tattooing (girls tattooed at 12-14), clothing and ornament, food, tobacco (snuff only), villages and houses ("men's house"), names of villages, agriculture, industries, and arts (cotton; dyeing; pottery by wives of smiths; blacksmith), dance and music (xylophone only real musical instrument), trade (marked aptitude), etc. At pages 45-49 are given French versions of 10 brief animal tales: Lion, hyena and hare; hyena and iguana; elephant, hippopotamus and hare; fox and cock; mouse and cat; eagle and sparrow; *naja* (serpent) and the king of the toads; crow and snipe; lion and hare; sparrow caught in trap.
- Dayrell (E.)** Some "Nisibidi" signs. (Man, Lond., 1910, x, 113-114, 1 pl.) Lists with figures and explanations 41 *nisibidi* signs collected by the author in Southern Nigeria; also a short story written in *nisibidi*, with translation. See on *nisibidi* the *Jour. R. Anthropol. Inst.*, xxxix, 209.
- Deyrolle (—)** Les Haouanet de Tunisie (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., x, 155-170, 5 figs.) Treats of recent investigations (particularly those of the author since 1904) of the *haouanet* or cliff-tombs in Tunisia, at Kalaâ-es-Snam, etc. At Kalaâ-es-Snam dolmens and *haouanet* occur together. Dr Carton's theory of Punic origin and Dr Bertholon's ascription to the Aegeans of the *haouanet* both find support, according to Dr D. Other Asiatic (Asia Minor, etc.) and European analogies are pointed out. Dr D. suggests an ancient Syrian origin for these *haouanet*.
- Dickerson (M. C.)** In the heart of Africa. The first published account of the Museum's Congo Expedition. (Amer. Museum, J., N. Y., 1910, x, 147-170, 30 figs., map.) Treats of expedition of H. Lang and J. Chapin now in Upper Congo region (reached Africa in the end of June, 1909). Contains some notes on places visited. The illustrations (photographed by Mr Lang) include bartering-scene, tom-tom "telegraph," fruit-stone spinning game, cannibal chief, etc.
- Die Gebiete im Norden von Wadai.** (Globus, Brunschwg., 1910, xcvii, 189-190.) Résumés Lieut. J. Ferrandi's account of Ennedi and Mortcha in *L'Afrique Française* for January and February, 1910; the nomadic Nakasa, the cattle-breeding Mahamids, etc., are briefly described.
- Die innerpolitischen Verhältnisse Abessinien.** (Ibid., 1910, xcviii, 141-143.) Cites from a letter of Mgr. Jarousseau in the *Missions Catholiques* for July 1, 1910, an account of the *coup d'état* of March 21, by which Jeassu was declared Menelik's successor and the power of the Empress Taitu

- shown, thus favoring the "Young Abyssinian" party.
- Die Wasiba.** (Ibid., 77-79.) Résumés data in H. Rehse's *Kisiba, Land und Leute* (Stuttgart, 1910, pp. xi, 394). Royal family and other groups, food-tabus, houses, deformations and mutilations of body, hunting, cattle-breeding (chiefly for milk), banana-beer, tobacco (king must not smoke a pipe), pottery-making (occupation of men), divorce, priesthood (only spirits have priests, not deity), kissing (not practiced by adults; mother kisses infant), supreme being (creator of men and cattle), time-reckoning, counting of cattle, etc.
- Dufays (F.)** Lied und Gesang bei Brautwerbung und Hochzeit in Mulera-Ruanda. (Anthropos, St. Gabriel-Mödling IV, 1909, 847-878, 1 fig., 4 pl.) Describes in detail (at work, at the family-table, asking in marriage, giving consent, a sacrifice, preparation for the wedding, departure for the wedding, the wedding and after) wooing and wedding among the Ruanda, of Mulera, German East Africa, with native texts and translations of all the songs, etc., used in connection therewith.
- F. (B.)** Torday's Reisen im südlichen Kongobecken. (Globus, Brnachwg., 1910, xcvi, 130.) Brief résumé of E. Torday's account, in the *Geographical Journal* for July 1910 (pp. 26-53) of his travels (1907-1909) in the southern Kongo country, with notes on the native tribes, etc. (Bushongo, and the pygmyoid people dwelling with them; Badjok, Bankutu, Betetela, Bambala, Bapende, Bashitele, etc.).
- Kordofan. (Ibid., 1910, xcvi, 224-225.) Résumés briefly article of Gov. Watkins' Lloyd in the *Geographical Journal* for March, 1910. The population of Kordofan consists of Arabs and Nubas (negroes), who have withdrawn to the rocky hill-country of the south. The Nuba religion is fetishism.
- Fisher (E.)** Le peuple des "Bastards" de Rehoboth, Afrique sud-occidentale allemande. (R. de l'Éc. d'Anthr. de Paris, 1910, xx, 137-146, 4 figs.) Translated by J. Nippgen from Prof. F.'s article in *Die Umschau* (Berlin), 1909, xiii, 1047-1051. The "Bastards" are the result of the mixture of white (Dutch) men and Hottentot women, — a type in process of formation. Physically and intellectually as well, they are *mêlés*.

Prof. F. thinks that through proper education and instruction they may become an industrious and useful class of the population. He is violently opposed to miscegenation. See Giuffrida-Ruggeri (V.).

- Flamand (G. B. M.) et Laquière (E.)** Idoles (pierres roulées à tête de chouette du Sahara central, Tassili des Azdjer. (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., x, 179-197, 10 figs.) Treats in detail of 6 "owl-headed" stone idols discovered in 1905 by Capt. Touchard, 10 or 12 kilom. s. w. of Tebalbalet in the Djanet region of the Central Sahara. These megaliths are from 24 to 37 cm. high, with a maximum diameter of 20 cm. The human face outlined at the top is of the "owl-head" variety, — no mouth, lips, or chin indicated. Sex is not clearly indicated. The *patina* on the idols suggests that they are older than the prehistoric and Libyo-Berber inscribed stones. These idols were possibly funerary stones with some religious significance.
- Forbes (E. A.)** Notes on the only American colony in the world. (Nat. Geogr. Mag., Wash., 1910, xxi, 719-729, 14 figs.) Points out how "American" some things are in Liberia. The houses are built "in the styles of the Southern States," and they are equipped from the United States. There is "no real difference between the people of Monrovia and those of the same race in the United States," and "even their shortcomings are homelike." The "American saloon" and the "negro dive" seem absent. Liberia is not a failure in self-government.
- Fritsch (G.)** Über vernachlässigte Mumien Schädel des alten Reiches in Ägypten. (Z. f. Ethnol., Berlin, 1910, xlii, 318-320.) Calls attention to the need for investigating the skeletal remains of the lower classes of the ancient Egyptian population. As judged by fragmentary, neglected skulls from Sakkara, this element belonged to the "gross type." In Egypt, as well as elsewhere (e. g. Japan), "fine" and "gross" types are to be distinguished. F. questions the conception of Hamites held in certain quarters, which attributes to those peoples the origin of the Semites. According to F. the Nubians are Negroid and distinct from the Berbers.
- Frobenius (L.)** Ethnologische Ergeb-

nisse der zweiten Reiseperiode der Deutschen Innerafrikanischen Forschungs-expedition. (Ibid., 1909, xli, 759-783, 11 figs.) *Résumés* results of the Central African expedition of 1908-1909. The northern Niger region (Timbuctoo) was not first founded in the 13th century, an older native town underlies the newer Mohammedan one; also an earlier pre-Gana empire of native origin; the so-called "white" rulers of Gana were Fulas; the shamanism of this region is important; the graves of the mountain-population deserve special study, the tumuli, architecture, etc., the bronze finds here, resemble the famous ones of Benin; the older Sudan-culture (not destroyed and mutilated altogether as has been generally believed, but proportionately little annihilated or substituted); culture-area of the Mande plateau (represents the institution of castes; nobles; subjects,—peasants, workers, subjected tribes; bards and singers; the old inhabitants, iron-workers, etc., the controllers, etc., of religion; slaves); culture-area of the Moasi-plateau (no bard-institution, court-song, or court-poetry; characteristic festivals in honor of the dead; sort of feudal *régime*); methods of bow-stringing (5 sorts in various parts of the continent); departures from usual type of Negritic culture (Asiatic influences in certain implements; different types of weaving, Mediterranean, Indian; house-architecture); myth of Atlantis (possibly due to some distorted account of the early culture of this region, belonging to certain Guinea negroes). F. suggests the former existence of an "Atlantic culture." Atlantis was not submerged by the Ocean, but the knowledge of this culture passed away from the minds of the Mediterranean civilized peoples.

Garbutt (H. W.) Native superstition and witchcraft in South Africa. (J. Roy. Anthr. Inst., Lond., 1909, xxxix, 530-558, 2 pl., 4 figs.) Treats of witches and witchcraft, witch-doctors (male and female of various sorts), bone-throwers (sickness, lost property and food; minor and major bones; before going to war; readings of bones; names of bones; for theft, witchcraft, etc.), rain-making (witch-doctors not usually consulted; every tribe has its own protecting god, who

always has a medium through whom he speaks; spirits; girl-dancers) and rain-doctors (not confined to males; king is chief one), grave-doctors, necromancers or sorcerers, sacrifices (good and bad spirits), ordeals (castor-oil bean, boiling water, fire, etc.).

Garstang (J.) Preliminary note on an expedition to Meroë in Ethiopia. (Ann. Arch. & Anthropol., Univ. of Liverpool, 1910, III, 57-70, 4 pl., 2 figs.) Gives results of excavations, etc., during winter of 1909: Peripetal temple at Messawrat (plan), temple of Amon (kiosk, main building), sun temple, two smaller temples, the necropolis. The pottery and character of the Meroitic tombs was distinctive, peculiar, and entirely non-Egyptian.

Giovannozzi (U.) Gli oggetti etiopici della Accademia Etrusca di Cortona. (A. p. l'Antrop., Firenze, 1909, xxxix, 132-137, 1 fig.) Lists, with brief descriptions, 29 Ethiopian specimens (ornaments, weapons, implements, etc.). The most interesting object is a wooden mattock, figured on p. 136. Most of the specimens are probably from the Galla.

Groom (A. H.) The main characteristics of the "Inland" Igbiras in Kabba Province, Northern Nigeria. (J. Afric. Soc., Lond., 1910, ix, 176-183.) Treats of origin (said to have come from Panda or Romasha on the Benue), chief and rain-maker, marriage (infant-betrothal general; wife husband's property and domestic drudge), ceremonies at birth of child (twins not considered unlucky), circumcision (universal; performed when child is from 2 to 5 months old), death and mourning customs, burial, sacrifices (goats and fowls at all festivals, etc.), ancestor-worship universal, *Ihinegba* (one god, of hazy personality, beneficent and punishing evil by sickness), religion (largely "rain-worship"), *ju-ju* ("devil-cult"), ordeal (by passing quill through tongue; bending or breaking indicates guilt), games (dances, archery, sort of draught-game with stones), war and hunting (bow with poisoned arrows; hunting "medicine").

Haarpaintner (M.) Grammatik der Yaundesprache, Kamerun. (Anthropos, St. Gabriel-Mödling, 1909, iv, 919-930.) Pt. II. Treats of adverb, comparison (no real adjectival c.), preposition, verb and its classes (ex-

ercises with native text and translation, pp. 926-928), yes and no, auxiliaries, etc. Numerous examples are given under the various sections.

Hamberger (A.) Nachtrag zu den religiösen Überlieferungen und Gebräuchen der Landschaft Mkulive, Deutsch-Ostafrika. (Ibid., 1910, v, 798-807.) Treats of the *mwawa*, *nanyawili* or *mama nduwi* (Wafipa *katai*) an incorporeal, pure-minded spirit, a sort of medium between man and God, that sometimes appears in human form (his commands are usually given through the mouths of persons "possessed"),—he also brings diseases (e. g. small-pox) upon man and is feared on that account; *siwa* or ghosts, born of the bones of dead and decayed corpses (not the *mzimu* or soul); *kinkula* (a child whose upper teeth break through first; causes as much fear as a *kisua*); *milembo dawu* (folk materia medica; medicine-bag; dawu or "medicine" and its employment, treatment of the sick, etc.).

Hart-Davis (M.) Trade signs in Christianborg, Gold Coast. (Man, Lond., 1910, x, 33, 1 pl.) Note, with figures of 12 signs of thin sheet tin, seemingly of recent origin, and representing the trade of the owner (saw, hammer, anvil, etc.). The hand, occurring in several, is possibly talismanic. Christianborg is a suburb of Accra, but "boasts its own king, its own fetish hut, and a fetish grove of somewhat sinister fame."

Hatch (J. E.) Some African customs and superstitions. I. In Rhodesia. (So. Wknn., Hampton, Va., 1910, XXXIX, 624-625.) Notes on worship of ancestral spirit, *Mudzimu*, and on beer-drinking.

Hofmeyer (W.) Zur Geschichte und sozialen und politischen Gliederung der Schillukneger. (Anthropos, St. Gabriel-Mödling, 1910, v, 328-333.) Notes on the history, and political and social institutions of the Shilluk negroes. Origin-legend (descended from Urukua, a powerful chief on the river Giur in the Bahr-el-Gazal, whose eldest son Nyang migrated some 200 years ago); veneration of Nyang in numerous temples. The most important tribes, castes, etc., are the *Quared* (descendants of Nyang; the lowest class are the half-Arabs and descendants of the aborigines found in the land now occupied by the Shilluks), *Quamal* (de-

scendants of those who came "from above,"—the legend of their falling down is given in Shilluk and German, p. 331), *Quadschal* (originating from the wonderful "land of silver"), *Ororo* (descendants of Dag; are in a manner high-priests); *Qua-okal* (descended from a relative of Nyang, but made ordinary Shilluk in consequence of crime against his house), etc. After Nyang's time the Shilluk country became a hereditary kingdom.

Hollis (A. C.) Taveta sayings and proverbs. (J. Afric. Soc., Lond., 1910, 255-266.) Gives 81 items with translations and explanatory notes. The Taveta in the Luma river region at the foot of Kilimanjaro, in the southern part of the British East Africa Protectorate, are a mixed Hamite-Bantu people, some 4000 in number, who have lived in their present habitat not more than 300 years. Sir H. Johnston says that they are a very pleasant people.

von Hornbostel (E. M.) Wanyamwezi-Gesänge. (Anthropos, St. Gabriel-Mödling, 1909, IV, 1033-1052.) Continuation. Treats of melody, harmony, rhythm, time, etc.; opinions of Wanyamwezi music (various Europeans); also two educated natives from the coast. On pages 1050-1052 are notes to the texts by C. Mernhof. The texts contain many Swahili words. Stanley termed the Wanyamwezi "by far the best singers on the African continent."

Hrdlička (A.) Note sur la variation morphologique des égyptiens depuis les temps préhistoriques ou prédynastiques. (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., x, 143-144.) Briefly résumés results of author's examination of 300 skulls and skeletons of the 12th dynasty (ca. 2000 B. C.), a series of skeletons of subsequent dynasties and 150 mummies, skeletons and skulls of the Copt period in the Great Oasis; likewise 100 male and 50 female skulls (with long bones), in the Cairo Medical Museum, of the predynastic period, a series of skulls from the 6th, 9th and 11-14th dynasties, besides some 20 Copt skulls of the 3rd century. In addition in the Great Oasis 155 adult men of the Egyptian type were measured, examined, and photographed. The present population of the Nile valley is "a mixed mass, a very unhomogeneous mixture of Egyptians, Arabs

and other Semites, Libyans, Nubians, negroes, and still other ethnic elements from Asia Minor and Europe," but in certain localities the ancient type of the valley (coinciding with the Egyptian type) can still be recognized, e. g., in the Great Oasis (Kharga). The pre-dynastic material shows that even then the population contained foreign elements. The tendency to brachycephalism noted as early as 6000 B. C., is explained by Dr H. as of slow growth and "due to the gradual infiltration of new ethnic elements (and perhaps other factors), but not to the displacement of one race by another."

Huguet (J.) Les *sofs* chez les Abadhites et notamment chez les Beni Mzab. (L'Anthropologie, Paris, 1910, xxi, 151-184, 313-319.) Historical and sociological notes on the *sofs* or groups for offensive or defensive union among the Abadhites, particularly the Beni Mzab of Algeria. The formation and evolution of the *sofs* and their participation in the great events in the Mzab before the French occupation, their activities since the annexation of the Mzab in 1882, are considered. The history of the *sofs* is in a sense the key to the history of the Mzab.

Hurel (E.) La trouvaille d'un couteau de pierre (préhistorique?) dans l'Afrique Orientale Allemande. (Anthropos, St. Gabriel-Mödling, 1910, v, 247-248, 1 fig.) Describes a stone knife (70 cm. long, weight 56 lbs.), made of the granite of the country, found imbedded in the soil of the *kibira* or sacred forest of the village (Mission of Ihangiro). This object is of ancient date.

Hutter (Hptm.) Im Gebiet der Etoschafanne, Deutsch-Sudwestafrika. (Globus, Brinschw., 1910, xcvi, 1-7, 24-30, 15 figs.) Contains (p. 30) notes on the natives of the Etosha region (in the west Bushmen, in the east mountain-Damara), musical instruments. In this region only one "painting" has been found (that of a hippopotamus near (Ghaub); but many tracks of animals cut in the rock.

Hyde (W. W.) A visit to the pyramids of Gizeh. Part I. (Rec. of Past, Wash., 1910, ix, 247-265, 10 figs.) Historical and descriptive notes. The pyramid (the form was "derived from the prehistoric funeral mound of earth transferred to stone"), was "merely the abode of the royal mummy, a tomb,

whose sepulchral chamber was hidden away in the interior." The characteristic of having 4 faces is the only one common to all Egyptian pyramids—"in every other detail they show the most surprising variation of form and structure."

Ishmael (G. C.) The Babinza. (Man, Lond., 1910, x, 114-117.) Notes on the Babinza of the Belgian Congo, Likati-Iltimbiri region: Physical characters (neither tall nor well-proportioned; women small and ill-shaped), tribal divisions (some 20 clans), villages and houses, food, occupations and industries (women cook, fetch wood, till fields, make pots; men hunt, fight, occasionally tend the children; dexterous canoe-men and hunters of monkeys), succession and inheritance, human sacrifices at chief's death, war (not only between clans, but between parts of same sub-clan), ordeal for murderer, condition of women (polygamy), child-birth, circumcision (males before 20), affection (great; father often plays with child), religion ("do not believe in a God, gods, or future state," but revere a spirit called *mumbo*).

— and **Kagwa (A.)** Old customs of the Baganda. (Man, Lond., 1910, x, 38-43.) Translates from Sir Apolo Kagwa's book of *Old Customs* items relating to law (fraud, ordeal by *datura* seed juice, bewitching, theft, adultery, debt, theft of food, witnessing sales, herdsman's offenses, etc., assaults and fighting, cattle-stealing, etc.), twins (dance and *kibululu* ceremony).

Joyce (T. A.) On a wooden portrait-statue from the Bushongo people of the Kasai district, Congo State. (Ibid., 1-2, 1 pl.) Describes statue of Shamba Bolongongo, 93d (the present ruler is 121st) in the list of Bushongo kings "from the creation," a very wise man, many of whose sayings have been recorded. This statue is one of 4 portrait-figures in wood brought by Mr E. Torday from the Kasai country. It is important, since "the art of portraiture in the round, so far as Africa is concerned has usually been supposed to be confined to ancient Egypt."

— Note on the Pigment-blocks of the Bushongo, Kasai district, Belgian Congo. (Ibid., 81-82, 1 pl., 1 fig.) Treats of the cakes or blocks of the *tukula* (rich crimson pigment) into

which the Bushongo mould their dye-paste,—forms of animals, human heads, ornaments, etc. The pigment is used to adorn the body on festive occasions, to color palmcloth and embroidery fiber, and also to rub in on wooden carvings, etc. *Tukula* blocks are also distributed at funerals (cf. our "mourning rings") by the chief mourner to the principal friends of the deceased.

Langlume (—). *Deux légendes des Mossis*. (*L'Anthropologie*, Paris, 1910, XXI, 614-615.) French texts only of the contest between sun and moon (eclipse) and origin of the world; obtained from an old chief of the Mossis at Ouahigouya (Yatenga) on the occasions of an eclipse of the moon in 1903.

Mabuda (E.). *Mission work in Natal, South Africa*. (So. Wkman., Hampton, Va., 1910, XXXIX, 181-183.) Reports effects of mission work since 1835. Author is a Zulu woman from Umzumbe, graduate of the Lovedale Institute in the Cape Colony.

MacMichael (H. A.). *Rock pictures in North Kordofan*. (*J. Roy. Anthr. Inst.*, Lond., 1909, XXXIX, 562-568, 20 fgs.) Treats of pictures at Jebel Haráza (145 miles W. S. W. of Omdurman), and at Jebel Afárit, "Hill of Goblins" (30 miles E. S. E. of Foga). Those at J. Haráza are of three sorts (at J. Shaláshi, red and white pigment, superior in workmanship, full of life and movement,—men, animals, etc.; at J. Karshúl, red pigment, correspond to ordinary "Libyo-Berber" rock-pictures; at J. Kurkeila, roughly chipped on lumps of granite on hillside). At J. Afárit the pictures are in blackish pigment on overhanging rock (men carry shields).

Mahoudeau (P. G.). *Le périple d'Hannou*. (*R. de l'Éc. d'Anthr. de Paris*, 1910, XX, 149-169.) Study and interpretation of the voyage of Hanno,—a French version of the Greek of the Ms. of Heidelberg is given at pages 150-152, and it is discussed paragraph by paragraph. Dr M. thinks that if by the "gorillas" of Hanno anthropoids were meant, they were probably chimpanzees; evidence of their having been men (hairy pigmies) is not sufficient. The fires seen may have been large bush-fires set by the natives to clear away the forest, or for other

purposes. Besides Berbers (e. g. Hanno's *Lixites*) the expedition also met with negroes.

Mehlis (C.). *Die Berberfrage*. (*A. f. Anthropol.*, Brunschwg., 1909, N. F. VIII, 249-286, 3 fgs.) Résumés and discusses views and theories of writers and investigators, ancient (Herodotus, Strabo, Sallustius Crispus, Pomponius Mela, Ptolemy, etc.) and modern (F. Mueller, Peschel, Klepert, Rosellini, Quedenbergh, Faidherbe, Broca, Hommel, Forrer, Wilsen, Flinders Petrie, Th. Fischer, Lissauer, Sergi, etc.) concerning the origin, migrations physical characters, etc., of the Libyans and Berbers, their relations to the peoples of Europe, Asia Minor, etc. (at pages 274-284 Dr M. discusses numerous North African place-names in comparison with European). According to Dr M., the tall, blond Libyans (the classic type was known to the ancient Egyptians) originated in North Central Europe. Linguistic data point to Aryan relationship, as do also myths, religion, habits and customs, etc. Place-names indicate the route taken.

Meldon (J. A.). *The Latuka and Bari languages*. (*J. Afric. Soc.*, Lond., 1910, IX, 193-195.) Gives the numerals 1-10 in Latuka and Bari, besides a Bari vocabulary of more than 100 words. These languages belong to the same stock as the Masai.

— *The Latuka*. (*Ibid.*, 270-274, 1 pl., map.) Notes on physical characters (tall race), houses and villages, etc.

Miller (F. V. B.). *A few historical notes on Feira and Zumbo*. (*Ibid.*, 416-423, 2 pl.) Treats of the relations of the Portuguese in this region of Rhodesia with the natives from 1720 to 1864.—Zumbo is still Portuguese, but Feira now belongs to Gt Britain.

de Morgan (J.), **Capitan** (L.) et **Bondy** (P.). *Étude sur les stations préhistoriques du sud tunisien*. (*R. de l'Éc. d'Anthr. de Paris*, 1910, XX, 105-136, 206-221, 267-286, 335-347, 109 fgs.) Treats of the prehistoric "stations" of South Tunisia, investigated in 1906-1907 by MM. de Morgan and Bondy,—a geological sketch precedes: El-Mekta (to the north of the Gafsa oasis); the implements correspond even in detail to the Acheulean and Mousterian of

- France; also some specimens corresponding to the lower Aurignacian, middle Aurignacian, Aurignacian; the Capsian type is also represented); Gafsa (offers all the paleolithic forms of El-Mekta). Fomel Maza (paleolithic rare), Rédeyef (Capsian; Chellean-Mousterian; Acheulean-Mousterian), Oum-All, Guetana, Jénéyen Chabet-Rechada. The paleolithic period in South Tunisia can not be divided into 3 successive periods corresponding to those of Europe. The Capsian has been named from Gafsa (in Latin Capsa), and corresponds to the European Aurignacian. In the southern or pre-Saharan zone the Capsian (lower and upper) has a great importance and a remarkable extension; in the extreme South or Saharian zone (Jénéyen) the Capsian is not much represented.
- de Mortillet (A.)** Notes sur la préhistoire de l'Oranie d'après J. P. Johnson. (Ibid., 312-317, 3 figs.) Résumés data in J. P. Johnson's *Geological and Archaeological Notes on Orania*. (London, 1910.) Treats of stone implements, rock carvings and paintings, etc.
- Mosczik (—)** Daggarauchen. (Int. Arch. f. Ethnogr., Leiden, 1910, XIX, 162-165, 2 figs.) Notes on the smoking of *dagga*, Indian hemp, or the African variety of it, among the Kaffirs, etc. of South Africa. Only the leaves are used; the apparatus employed resembles the Turkish *nargileh*. There are two ways of smoking. The effects of *dagga*-smoking have not yet been thoroughly studied.
- Nahon (M.)** Les Israélites du Maroc. (Rev. des Ét. Ethnogr. et Sociol., Paris, 1909, II, 258-279.) Treats of the Jews of Morocco. Number (in 1904, 109, 712) and distribution, language (3 linguistic groups, Spanish, Arabic, and those of the Berber zone), manners and customs, religion (the only cultural factor), communal organization, economic condition, legal status ("subjects of inferior rank"), attitude of the authorities, relations with Musulman, population, murders and plundering (fanaticism at Salé, and especially Fez), the European representatives and the Jews, "L'Alliance Israélite," etc.
- Newberry (P. E.)** The Egyptian cult-object < o > and the "thunderbolt." (Ann. Arch. & Anthropol., Univ. of Liverpool, 1910, III, 50-52, 1 pl.) Suggests that this symbol, which Prof. Petrie regards as a garland of flowers, is really a *thunderbolt*, like that of the Greek Zeus.
- Obermaier (H.)** Ein "in situ" gefundener Faustkeil aus Natal. (Anthropos, St. Gabriel-Mödling, 1909, IV, 972-975, 4 figs.) Treats, after information from Br Otto of Mariannhill, Natal, a typical *coup-de-poing* of reddish porphyry, found in 1907 in the valley of the Umhlatuzane river, near Mariannhill, in the course of digging a well. The find is important as not being a surface one, and lying 5 or 6 meters deep.
- Offord (J.)** The antiquity of the great Sphinx. (Amer. Antiq., Salem, Mass., 1910, XXXII, 27-28.) Discusses the significance of the texts on the "Stele of the Daughter of Cheops," in which reference is made to the repairing of the head-dress of the Sphinx. The new work may have been graven in the 12th dynasty fashion and not the like the original stone. There is need of research for the oldest statements, in papyri or on monuments, relating to the Sphinx.
- Palmer (H. R.)** Notes on traces of totemism and some other customs in Hausaland. (Man, Lond., 1910, X, 72-76.) Treats of totemism, etc., among the Maguzawa, pagan Fulani and other non-Moslem people of the Hausa country (the Hausa was polygamous and exogamous; the Fulani monogamous and endogamous). The totems of the pagan Fulani of northern Hausaland are chiefly birds (there is also a tabu on sheep and cattle and the killing of them except on certain occasions, e. g., the ceremony of *Biswali*); marriage is permitted between children of the same father, but not of the same mother among some of the pagan Fulani. The pagan Hausa or Maguzawa have a curious custom of shutting up together for a month young men and maidens, called *fila fuwa*. All Maguzawa have "at least one 'totem' or 'tabu,'" and they sacrifice to certain spirits, but do not make images or fetishes. On pages 75-76 are given data concerning totems and tabus from native informants belonging to 28 different Hausa communities.
- Notes on some Asben records. (J. Afric. Soc., Lond., 1910, IX, 388-400.) Gives a chronology of the chiefs of Asben (Tuareg) and their wars

(from notes in Arabic compiled by a Hausa Mallino, derived in part, probably from Mss. and from Tuareg sources) from 1406 to 1908 A. D.

Passarge (S.) Henry Hubert's Forschungen in Dahomey. (Globus, Brnswgw., 1910, xcvi, 312-317.) Résumés data in H. Hubert's *Mission Scientifique au Dahomey* (Paris, 1908). Notes the influence of geological and geographical conditions on the distribution of the native tribes. There are three great vegetal zones: oil-palm, butter-tree, mimosa (or better, thorn-bush).

Petersen (E.) Die Serapiaslegende. (A. f. Religsw., Lpzg., 1910, xiii, 47-74.) Discusses the origin of the Alexandrine cult of Serapis and the legend of the origin of the statue in Tacitus and Plutarch, etc., with reference to the recent literature of the subject. Two kings, two sculptors, two gods (Osiris and Serapis), and two statues (the old one made at the behest of Sesostris and the new one brought from Sinope) are confused in some of the legends and reports.

Petrie (W. M. F.) The earliest stone tombs. (Man, Lond., 1910, x, 129-130, 1 pl.) Treats of the tombs of Nefer-maat and another great noble of the end of the third dynasty ("the oldest stone tombs of subjects") at Mejdum, opened by the British School the last winter. The burial in tomb No. 17 antedates the adjacent pyramid of Sneferu, 4600 B.C., being the earliest private stone tomb that can be dated. Both bodies were unfleshed before being wrapped in linen. The skull found in the granite sarcophagus was of a high type (ceph. ind. 75.4).

Peyré (L.) Quelques notes sur l'île de Madère. (Anthropos, St Gabriel-Mödling, 1909, iv, 976-988.) Contains some notes on the people, particularly the "permanent" population. The native of Madeira is ugly (partly due to African ancestry) short-statured, a great worker, a great "walker," and a "toter" (born with a basket on his head). There are three types (all trades of the negro): *bociro*, driver of ox-sled; *arriciro*, groom and porter for the tourist on horse-back; and the hammock-bearer. Dress and ornament, songs (not very varied; *canto dos villos*; improvisation), religion and superstition (festivals of St João, the patron of the *bociro*; of St

Peter, the festival of old maids, *soltairai*), etc., are considered. The author probably overestimates the "Negro element" in Madeira.

Pösch (R.) Reisen im Innern Süd-afrikas zum Studium der Buschmänner in den Jahren 1907 bis 1909. (Z. f. Ethnol., Berlin, 1910, xlii, 357-362.) Résumés results of expedition of 1907-1909 among the Bushmen of the interior of S. Africa. The Kalahari tribes (all those of the central Kalahari are more or less mixed with Hottentot and negro blood; the customs and habits of the Bushmen as hunters have been least influenced); Bushman-paintings of Rhodesia (the Bushman-race is older than the ancient Rhodesian buildings); the Cape and Kham Bushmen and their language (the Kham Bushmen represent a much purer type of the race than do those of the Kalahari); the Nu Bushmen of the north (linguistically and somatically very close to the Kham; the Bushmen north of the Molopo-valley (closer to the Kalahari type), etc., are considered. Dr P. found no evidence for the existence of the Kattéa, a race smaller in stature than the Bushmen, concerning whom there is a legend among the Boers, etc.

Poutrin (—) Notes ethnographiques sur les populations M'Baka du Congo français. (L'Anthropologie, Paris, 1910, xxi, 35-54, 18 figs.) Treats of clothing and ornaments (women go naked till puberty; special ornaments of warriors; men wear sort of apron of beaten bark, women apron of fine bark-fiber), dwellings and furniture (wooden "pillows"; skulls painted red hung above the fire-place), domestic animals (chiefly small hens), division of labor (men largely idle, but obtain palm-wine; women agriculturalists, etc.), hunting and weapons (skillful in chase and in war; bow, spear, knives; rat-traps; shields), *kotolongo* (dance after success in hunt or war, etc.), musical instruments ("harp-guitar," bells, signal tom-toms), iron-working, basketry (rudimentary art, practised by few men or women in each village), drawings and paintings on walls of houses), food (manioc chief basis), anthropophagy, money (used to buy victims to eat,—pairs of iron bells, *kurokuro*), death and burial, superstition. The M'Baka by their culture rank above the lowest negro tribes.

Tattooing in relief is rare. Though not tall, they are well-built.

Notes anthropologiques sur les nègres Africains du Congo français. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s., t. 33-47.) Notes on physical characters, dress and ornaments, food, dwellings, occupations, implements and instruments, tattooing and mutilation, etc., among the Negro peoples of the French Congo: Bateke (losing native manners and customs more and more through contact with European culture), Bondjios (anthropophagous and resemble their northern neighbors, the M'Baka), Mandjia-M'Baka and Mandjia-Baya (work iron, use primitive forge of the Niam-niam; considerable variation from tribe to tribe in customs, mutilations, etc.), Babinga (groups of nomad pigmies scattered among the Mandjia), Ba-Tua (negrillos near Makumu, less brachycephalic than the Babinga), Banda (numerous tribes; scattered among them several remnants of primitive peoples, e. g., the Sabanga on the Ombella), Sara (tall and sub-brachycephalic, men 82.5, women 79.97), Baghirmi (mixed and varied in race), Mitsus and Nielim, Buduma and Kuris of the islands in L. Tchad, Kanembus, Uled-Sliman (from Fezzan), Teddas and Dogordas from Borku.

Contribution à l'étude des pygmées d'Afrique. Les Négrilles du centre africain, type brachycéphale. (L'Anthropologie, Paris 1910, XXI, 435-504, 7 figs., 2 pl., map, bibl., 89 titles). Valuable monograph on the brachycephalic negrillos of Central Africa. The tall negro tribes of the Gaboon.—Banga-Akalai, Okandé, Fiotte, Fan, or Pahouin and their possible relations and intermixture with these Negrillos are first considered, pp. 442-463; then the *mélange* of the Bantu negroes of the Gaboon with the Negrillos; and the brachycephalic tall negroes, pp. 467-473. Also the plurality of Negrillo types (pp. 473-479), dolichocephalic, mesaticephalic, brachycephalic pigmies of the Gaboon, etc. (A-Bongo and A-Kora, Ba-Raka and Bé-ku, A-Jongo, etc.) and studies of 3 pigmy skulls (A-Koa, O-Bongo). On pages 496-500 are anthropometric details of 14 male and 7 female Fiotte, 3 male and 4 female N'Komi, 6 male and 7 female Ba-kalai, 5 male and 2 female M'pongwe, 4 male

Benga-Akalai, 3 male and 3 female Ashango, etc., 27 male and 21 female Fan, 2 male Adouma, 1 male and 1 female N'javi, 6 male and 8 female Boulou. Dr P. concludes that there does exist in the Gaboon country a brachycephalic type of pigmy. The Negrillo type averages in height for males 1,430 mm., females 1,370 mm., but with great individual variations. The three crania studied give an average cephalic index of 83.06. Skull capacity is small absolutely but relatively to stature considerable.

Priebsch (M.) Die Stellung des Häuptlings bei den Wabena. (Globus, Brunschwig, 1910, xcvi, 205-206.) Describes the position and prerogative of a chief in the time of independence of the Wabena (unlimited power, a certain right to property of subjects, special and valuable clothing, special booty-day in war-time, judge without appeal from decisions, death and funeral ceremonies, sacrifice, etc.).

Puccioni (N.) Crani della necropoli di Siuwah. (A. p. l'Anthrop., Firenze, 1910, xi, 131-144, 6 figs.) Describes, with measurements, 15 skulls (8 female, 1 child, and 6 male) of various ages from Siuwah (Oasis of Jupiter Ammon) now in the National Anthropological Museum.—collected by the engineer Robecchi-Bricchetti in 1885. The cephalic index ranges from 69.44 to 80.84, two only of the crania reaching 80 or over, the average being 75.86, mesaticephalic. The general character is Mediterranean of a fine type of skull with long face (Zaborowski's "Semitic type," rare not only in ancient Egypt, but also among the modern Arabs). The presence of mesaticephalic crania in a Libyan series of the pre-Arabic period excludes the idea that the presence of that type in Mediterranean Africa is due to the historical Arabic invasion.

Randall-MacIver (D.) The Eckley B. Cox Junior Expedition. (Univ. of Penn. Mus. J., Phila., 1910, i, 22-28, 7 figs.) Notes on excavation of temple of Amenhotep II at Behen, the priests' dwellings, the door-way set up to King Aahmes (first of the 18th dynasty) by Thuri, a notable of Behen, the statue of the scribe Amenhat, etc.

Range (P.) Steinwerkzeuge der Buschleute des deutschen Namalandes. (Globus, 1910, xcvi, 207-208, 1 fig.)

- Notes finding in 1906 near Rotekuppe in the German Nama country of stone implements of paleolithic type belonging to the Bushmen.
- Rawson** (H. E.) *The Basuto*. (J. Afric. Soc., Lond., 1910, IX, 153-160.) Review and critique of Sir G. Lagden's *The Basutos* (2 vols. Lond., 1909), a historical sketch, containing matter of ethnologic interest.
- Read** (C. H.) Note on certain ivory carvings from Benin. (Man, Lond., 1910, X, 49-51, 1 pl., 2 figs.) Treats of two elaborate armlets and a mask, carved in ivory; also an ivory carving of a leopard and another of a baton surmounted by a mounted warrior. According to R., there is no question of the native manufacture of such ivory carvings and they "show conclusively that the Bini craftsmen were fully capable of producing work of quite as high a type, without the aid of the European motives and, as far as we can tell, without European suggestion." The workmanship of the famous bronzes is native, though sometimes the metal used may have been of Portuguese origin. The art of Benin is native.
- Reitemeyer** (E.) *Hochzeitsgebräuche in der Oase Biskra*. (Globus, Brnschw., 1910, xcvii, 165-167, 4 figs.) Describes wedding ceremonies and customs, dances, etc., as observed by the author in 1908-1909 in the village of Ras el Gueria (Algerian Oasis of Biskra), among the Arabized Berbers. Also a wedding in the negro village near Biskra.
- Ruete** (T.) Fiber plants in West Africa: a possible industry. (J. Afric. Soc., Lond., 1910, IX, 168-175.) Contains some notes on native use of fibers, etc.
- Sacleur** (C.) *L'article dans les langues bantoues. A propos de la Grammaire Ki-nindi du R. P. F. Ménard*. (Anthropos, St Gabriel-Mödling, 1910, v, 513-518.) Discusses the article in the Bantu languages with special reference to Father Ménard's *Grammaire Ki-Rundi* (Alger, 1908). The conclusion reached is that "the Rundi possesses in the variable vowel *u*, *i*, *a*, a real grammatical element, which may be termed an article." It is not, of course, in exact correspondence to the article of our European languages. Nor do the Ganda, Nyoro, and Kerewe use it in the same way as the Rundi.
- Sarbah** (J. M.) Maclean and Gold Coast judicial assessors. (J. Afric. Soc., Lond., 1910, IX, 349-359, 1 fig.) Notes on the administrations of G. Maclean, B. Cruickshank, Capt. Brownell, W. A. Parker, D. P. Chalmers, J. Marshall, etc., and their activities, opinions, etc., in the judicial affairs of the Gold Coast from 1830 down. The association of intelligent native chiefs with the English judicial officers is of great importance, and decisions such as that of the late Sir W. Nicoll in the *Chidda* case (Axim, 1901) have valuable educational bearings.
- Sayce** (A. H.) *Meroe*. (Ann. Arch. & Anthropol., Univ. of Liverpool, 1910, III, 53-561.) Notes on history of city, Greek and Roman influence, etc.
- Schönken** (F. T.) *Die Wurzeln der kapholländischen Volksüberlieferungen*. (Int. Arch. f. Ethnogr., Leiden, 1910, XIX, Suppl., vii, 1-91.) After a brief historical and literary introduction treats of the old condition (pp. 6-32) and what the Dutch brought with them to the Cape: customs and usages (children's games, some well-preserved; wedding-customs less so), material culture (village and house), religion, law, morality, etc., superstition (lucky and unlucky omens, p. 19), festivals and merry-makings (opposition of church to many dances, etc.), folk-poetry (less than in mother-country; numerous riddles and riddle-questions, pp. 24-25; jests, teasings, proverbs, pp. 25-26; like children's play the folk-song has suffered much; examples of lullabies and nursery-songs, pp. 28-29), folk-medicine (many European folk materia medica still in use). Influence of new environment on the Frisian house of the Boers and its arrangements, furniture, etc.; on clothing; effect of oxen and wagon *trek*; effect of the new animal world upon folk-lore and language, proverbs, etc.; new amusements, modifications of old dances, riddles, etc.); folk-poetry (the new is still young and scanty; specimens pp. 52-54); nomenclature of plants, animals of the new environment; lists of such names pp. 56-57; place-names p. 57; nick-names, personal and family-names. On pages 61-70 the natives (Hottentots, Bushmen, Kaffirs) are considered (importance of Hottentots as preservers of African animal-tale; local coloring of old Teutonic tales in S. Africa; European influence on native tales;

influence of Hottentot and other native languages upon speech of Boers; influence on manners and customs, food, dress, etc.; to the Bushmen, S. attributes the *woer-woer* or "buzzer" of Boer children; effect of contact with Kaffirs on customs, folk-literature, etc.; effect of slaves and servants. The immigrant peoples from the Orient (slaves, coolies, etc.) are discussed on pages 71-74 and the non-Dutch Europeans on pages 75-83. The "Malayo-Portuguese" of the Indian immigrants (cooks, household workers and attendants, nurses) has contributed about 100 words (10 e. g. relating to family life and many more to house, kitchen, clothing, occupations, etc.) to the Boer language. German influence on the Boers is scanty (a few loan-words, etc.); the only influence of the Huguenots is seen in certain family-names. English influence is marked in the school and in children's plays and games, where English words get a firm footing. On pages 85-86 the author gives in parallel columns the characteristics of the Dutchmen of Holland and the Boers of South Africa, showing them to be essentially one.

Secheho (J.) The twelve lunar-months among the Basuto. (*Anthropos*, St. Gabriel-Mödling, 1909, IV, 931-941; 1910, V, 71-81.) Treats in detail of the "peculiarly-named" Basuto months, their meaning, associations and relations to the life of the people; *Phato* (August), a bold, dull, and harsh month; *Loetse* (September), "anointed," a month of "tenderness to plants, humanity to animals, and pity to the land"; *Mphalane* (October), the month of the *leshoma*-plant, also of the circumcision of girls; *Pulungoana* (November), "month of the young gnu"; *Tsitoe* (December), "(little) grasshopper," from the continual noise of the insect; *Pherekhong* (January), "to interjoin sticks," i. e. putting up of *maphephehuts*; *Tihakola* (February), "wiping-off" (the *molula*), i. e. when the grain of the *molula* is to be seen above the husks; *Tihakubele* (March), "when the Kafir-corn (*mabele*) is in grain," *Mesa* (April), "kindling fire," i. e. to roast the ripe mealies; *Motseamong* (May), "bird-laughter," the time when the joyous *mabele* grain seems to mock the bird, it being at harvest and too hard to be pecked; *Phupjoune* (June),

"beginning to swell," in reference to the *senyareli-bulemi* bulb; *Phuphu* (July), "bulging-out," not merely of bulbs underground, but of the stems of some hardy plants.

Seiner (F.) Der Verbindungsweg zwischen Deutsch-Südwestafrika und der Betschuannaland-Eisenbahn. (Globus, Brnschw., 1910, XCVIII, 122-128, 133-137, 11 figs.) Contains some notes on the natives of the region, Bushmen, etc.

Die Buschmänner des Okavango- und Sambesgebietes der Nord-Kalahari. (*Ibid.*, 1910, XCVII, 341-345, 358-360, 11 figs.) Treats of the Bushmen of the North Kalahari and Zambezi region. Physical characters (in the Central Kalahari the Bushmen have been much influenced by Hottentot mixture, in the North by negro; some of the Northern Bushmen are tall and might easily pass for negroes), the Tannekwe (river or marsh Bushmen) and the steppe Bushmen (Hukwe and Galkwe), dwellings, dress, activities, etc. The upper limit of the Bushmen is 17° N. lat. The Marsh Bushmen are probably made up of the remains of several tribes driven out of the surrounding steppes in the river country, etc. The culture of the Tannekwe is more significant than that of the steppe Bushmen, and a good deal of it has been borrowed from the surrounding Bantu (iron tools, e. g., from the Barutse).

Sharpe (A.) Recent progress in Nyasaland. (*J. Afric. Soc.*, Lond., 1910, IX, 337-348, 1 pl.) Contains a few notes on natives, the labor question, development of cotton-planting, etc. The illustrations represent a Yao village and a band of Awemba musicians.

Shelford (F.) Notes on the Masai. (*Ibid.*, 267-269.) Treats briefly of weapons, dress and ornament, houses and villages, hunting ("rounding up" a lion), marriage (not until 30 years of age), etc.

Smend (Obl.) Haar- und Kopfracht in Togo. (Globus, Brnschw., 1910, XCVII, 245-250, 261-266, 32 figs.) Describes and figures the fashions of dressing the hair and the head among the negroes of Togo (German W. Africa): Fetish women of Atakpame with white turbans; Ewe, Haussa turbans, etc.; Sokodé "hair-islands"; Basari, Sokodé, Grussi fashions; shaved

head and tattooed neck of Shakossi men; Konkomba brass hair-ornament; Lama ornamental "helmets"; Lama, Ssoruba, Buda, Ssola, Fulla fashions; dance-helmets of Ssola and Difale, etc. Certain hair dressings of the Lama resemble strikingly the "Greek" method of arranging the hair now in vogue in parts of the U. S. A.

Spieß (C.) Verborgener Fetischdienst unter den Evheern. (Ibid., 1910, xviii, 10-13, 5 figs.) Brief account of the insignia of a *Boko* (shaman) among the Ewe negroes; the *Gboni* or fetish in the "temple," a sort of house of refuge; the *Aweil*, a fetish of the Legba group; the *Nukewiwo* or *Busuyiwo* ("huts to keep away evil spirits"); *Wumetrowo* (from *wu*, "sea"), a fetish for good luck with the whites, etc.—it includes figures of a European and his wife, a boat signifying also "from over sea."

Stam (N.) The religious conceptions of the Kavirondo. (Anthropos, St Gabriel-Mödling, 1910, v, 359-362, 1 pl., map.) Notes on ideas of God (Supreme Being not adored; sun chief and moon secondary deity; ancestors minor spirits); sun-worship (spitting toward the East in the early morning, etc.); death and burial of chief, child, woman, exorcism of spirit of defunct; circumcision (no fixed age, all young men treated at one time), marriage (girl must be full-grown; bride-price), etc.

Stannus (H. S.) Alphabet boards from Central Africa. (Man, Lond., 1910, x, 37-38, 2 figs.) Treats of 2 *uware* or "alphabet" boards for learning to read the Koran, from the Yao,—"the making of these boards was introduced from the coast along with Mohammedanism among the Yao, and practically they are only found among the Machinga Yao in this country, with a center at Fort Johnston." They are not common and it is hardly correct to say that they are used as "slates."

Native paintings in Nyasaland (J. Afric. Soc., Lond., 1910, ix, 184-188, 1 pl., 1 fig.) Treats of painting of a boat by Manyani and an antelope by Chipoka, both Machinga Yaos, and discusses the painting of a monkey by Moynsembi, also a Machinga Yao, recently described and figured in this Journal. Of the work of a boy of 12 years S. says, "it was of the same type, but showed many characteristics of

a European child's drawing." The boat-painting "shows an unconscious knowledge of perspective." He is of opinion also that "this painting on houses is the outcome of European influence," the natives themselves reporting that none was done before the coming of the whites. The carving of images has a parallel history; little sun-dried images of cattle and men were made by all the Angoni children and the Zulus, but the Yaos and other tribes neither modeled nor carved until a few years ago, "under the influence of the white man." The Yaos have adopted for their girl-initiation ceremonies the ground-drawings (in white ashes or flour; or in grass) of the Nyanja tribes. In a note Miss Werner thinks "Dr Stannus has completely disposed of the theory of a Bushman origin of the native drawings at Mponda's."

Staudinger (—) Über Bronzeguss in Togo. (Z. f. Ethnol., Berlin, 1909, xli, 855-862, 1 pl.) Treats of a number of bronze and copper casts (masks, statue, plates with numerous figures, etc.) from German Togo land. The maker of these is Ali Amonikoyi (the art is ancient in his family, which came from Ilorin in the Yoruba country) of Kete-Kratshi. They are said not to have borrowed the art from foreigners (details about Ali and his art from Prof. Mischlich, the German governor of the district, are given at pp. 857-859). One of the plates represents obscene scenes. These bronze objects are of value in connection with the much discussed "Benin bronzes."

Struck (B.) On the Ethnographic nomenclature of the Uganda-Congo border. (J. Afric. Soc., Lond., 1910, ix, 275-288.) Treats of Baamba, Bambuba, Bahira, Balega and Lendu, Banyari, etc. According to S., the appellations of *Wasongora* (Bazongola) and *Wahoko* (Bahuku) should be avoided; *Balega* (Lendu) and *Barega* (Bantu) "are homogeneous but not indigenous names and apply to entirely distinct tribes and languages, but *Balega* should be retained for the southern group of the Lendu; *Bahira* and *Bakumu* are local, but ancient variations and as such are to be respected."

Strümpell (Hptm.) und Struck (B.) Vergleichendes Wörterverzeichnis der

- Heidensprachen Adamauas. (Ztschr. f. Ethnol., Berlin, 1910, XLII, 444-488.) Gives more than 100 words and 50 phrases, etc., in 29 languages of the heathen natives of Adamaua (German Cameroons). The historical and ethnographical introduction by Struck informs us that only 3 of these tongues are represented in print (Baya, Batla, Daba); of 17 linguistic material is presented for the first time,—of 5 only the names were previously on record. The vocabulary of the Kākā extends the northern limit of genuine Bantu to 8° N. lat. Other interesting facts are noted. The 29 languages are: Baia, Batla, Dāmā, Dari, Durru (2), Falli, Gidder, Hina, Jassing, Kākā, Kōthillā, Kōtōpō, Lakka, Mangbei, Mberre, Mhum, Mboa, Mono, Musugeu, Mutturua, Namschi, Niam-niam, Pape, Ssari, Suga, Tschamba (2), Were. A vocabulary of the Adamaua dialect of the Ful is also given.
- Tate (H. R.) The native law of the southern Gikuyu of British East Africa. (J. Afric. Soc., Lond., 1910, IX, 233-254, 1 pl.) Treats of clans (11 or 14); laws of succession (eldest gets lion's share, all others equal portions after him); criminal law: blood-money for murder, compensation for injuries (in goats and sheep); offenses against property: damage to crops, stock-thefts, arson; offense against sexual morality (adultery, rape, seduction); offenses against tribal religion: trespass in sacred grove, sacrilege, snake-killing; breaking of oaths; crimes committed by persons of unsound mind (must be compounded by relatives); civil law: debts (liability inherited), enforcement of decrees now by protectorate courts; marriage-laws (wife buying); property-inheritance (if no male children exist, goes to eldest brother; widows retain for life own plots of land); disputes as to ownership of property; guardianship of minors (eldest brother or next of kin or clan); accidental and intentional injury not distinguished; forms of oath, affirmation and ordeals: 3 oaths, red-hot knife on tongue, witch-grass in eyes, etc.; legal procedure and constitution of courts (elders; council of elders), etc. On p. 236 is given the Southern Kikuyu legend of their own origin and that of the Kamba and Masai.
- Tepowa (A.) The titles of Ozor and Ndiche at Onitsha. (Ibid., 189-192.) Treats of the process of obtaining the grades of *ozor* and *ndiche* in the aristocratic set of Onitsha, a town on the East bank of the Niger, with 9 outlying villages. The title of *ndiche* can be obtained only by those who are at least 40 years of age, and already possess that of *ozor*.
- Tessmann (G.) Verlauf und Ergebnisse der Lübecker Pangwe-Expedition. (Globus, Brnschw., 1910, XCVII, 1-8, 25-29, 17 fgs., map.) Gives account of expedition of the author (under auspices of the Lübeck Ethnological Museum, etc.) in 1907-1909 in the Pangwe region of W. Africa, between the Ogowe and Sanga (parts of the German Cameroons, Spanish and French Congo), inhabited by Mpongwe tribes (Eton, Mwele, Jaunde, Bene, Bulu, Ntum, Mokuk, Mwai, Fang (the Okak are a section of the Fang, closer to the Ntum) forming a linguistic and ethnological group with only dialectical etc., variations. Physical characteristics (lighter, almost reddish tint of skin and finer Hamitic type often seen; also broadnosed; short-headed, darker type); villages and houses; division of labor; iron-smelting (many *tabas* connected with it); dress and ornamentation (scarification earlier, tattooing of recent introduction); polygamy; religious ideas (soul-cult, wooden ancestral figures; cult of evil and good, —*Sso* and *Ngī*, the latter the personification of fire. Huge *Sso* and *Ngī* figures made of clay, put in holy places and shown only to initiates); preparation of poison; "medicine;" specimen of a proverb (p. 28). The author's collections include 58 tales, 400 proverbs, riddles, etc. A comprehensive monograph on the Pangwe is in preparation.
- Religionsformen der Pangwe. (Z. f. Ethnol., Berlin, 1909, XI, 874-889, 5 fgs.) Treats of the religion of the Pangwe of the southern Cameroons, northern French Congo and Spanish Congo (sub-tribes Mwele, Jaunde, Eton, Bene, Bulu, Ntum, Mwai, Fang, Mokuk). Ideas about life and the soul (detailed dualism; scheme on p. 778); good side and bad side of things; shamanism; ancestor-worship and skull-cult; ancestral legends; huge figures erected on ground in connection with

the *Ng* and *Sso* cults, also *bokung* and *elong* "bad" and "good."

- Thomas (N. W.)** Decorative art among the Edo-speaking peoples of Nigeria: I. Decoration of buildings. (Man, Lond., 1910, x, 65-66, 1 pl., 2 figs.) Treats of scroll-work, concentric circles, triangles, animal figures, etc. In the extreme N. E. of Ifon, occurs a curious pattern giving a sort of "jig-saw" effect. Some of the native names of patterns are "tortoise shell," "200 mark," "palm leaf,"—but they are generally termed simply *oba*, i. e. "mark." In the Edo family (of which the Bini is the best known and most populous tribe), "there is, on the whole, a marked absence of incised plastic, or laid-on ornament."

— Pottery-making of the Edo-speaking peoples Southern Nigeria. (Ibid., 97-98, 1 pl.) Describes the various stages in the processes of manufacture at Utekon in the Bini country and at Sabongida (large pots only) in Ora. In Benin city pots are made with human figures on them. As a rule pots are more useful than ornamental.

— The incest tabu. (Ibid., 123-124.) Notes that in more than one place in Southern Nigeria (Agbede, especially), although marriage between sisters and brothers was prohibited, sexual intercourse was "exceedingly common." In the case of a man who had sexual intercourse with his mother, he was treated by her as an infant for 3 months, and the second son took his place as the eldest child. This is a most interesting example of "birth-simulation." The only kind of avoidance practiced at Agbede is between bride and bridegroom.

- Thompson (R. C.)** Three Bisharin folk-tales. (Ibid., 99-102.) Native texts, with translation and notes of three brief stories (Uncle teaches nephew to steal; ghouls and woman (woman gets bread from ghouls, who eats her children); Two brothers and ghouls), told by a Bisharin boy of the Hérano-Odeano mountain region of the Eastern Sudan.

- Torrend (J.)** Likenesses of Moses' story in the Central Africa Folk-Lore. (Anthropos, St. Gabriel-Mödling, 1910, v, 54-70.) Gives native texts and translations (with notes) of the tale of "Uancisa Ngoma" ("Drum you have hurt me") as told by two girls from

Siabusu's kraal on the Chikuni, N. W. Rhodesia, with versions of the same story from Chasha's village (Renje dialect) on the Nguere river; also versions of the tale "Nseyandi" ("I do not want") from the Chikuni river region. Father T. thinks that these "saved child" tales "look notably like vestiges of Moses' story." The records of the Tonga stories were made on the phonograph and the translations are quite literal.

- Tremearne (A. J. N.)** Pottery in northern Nigeria. (Man, Lond., 1910, x 102-103, 3 figs.) Describes manufactures as observed by author in 1909 at Jemaan Daroro in Nassarawa province, with additional information from the potter himself. The clay is usually moulded over an inverted pot; sometimes, however, in a hole in the ground. See Thomas (N. W.).

— Fifty Hama tales. (Folk-Lore, Lond., 1910, xxi, 199-215, 351-365.) First two sections. English versions only of 18 tales obtained in 1908-1909 from several illiterate Hausa: The spider, the hippopotamus and the elephant; The spider, the hyena and the corn; The *malari* (magician), the spider and the hyena; How the spider outwitted the snake; The snake and the dove outwit the spider; The spider has a feast; How the spider obtained a feast; The spider outwitted by the tortoise; The spider and the rubber baby; The jackal's revenge on the spider; The lion, the spider, and the hyena; The cunning spider and his bride; How spiders were reproduced; How the woman taught the spider cunning; The hyena, the scorpion and the ram; The ungrateful hyena; The girl who prevented the beast from drinking; The cunning he goat, the hyena and the lion. With the Hausa the lion is the king of beasts, but really no match for the crafty spider; the hyena is the buffoon of the animal world; the dog is not very clever; the elephant is wise; the jerboa is next to the spider in cleverness. According to the author, "many of the other tales refer to the unfaithfulness of wives, and are hardly fit for publication."

Völkerstämme (Die) im Norden Deutsch-Ostafrikas. (Globus, Brnshwg., 1910, xcvi, 153-157, 7 figs.) Résumés data in M. Weiss's *Die Völkerstämme im Norden Deutsch-Ostafrikas* (Berlin,

1910), treating of the Wahima (or Watussi), Wanjambo (Wapororo, Wahutu), Waganda, Wahela, Wageia (Waka-virondo), Bakulia, Masai, Wandorobbo. In this résumé the Bakulia are considered (dwellings, clothing and ornament, weapons, circumcision, occupations, marriage, etc.).

Weeks (J. H.) Anthropological notes on the Bangala of the Upper Congo River. (J. Roy. Anthr. Inst., Lond., 1909, XXXIV, 416-459. 3 figs.) Part II, treating of writing (message-tokens, credit-tokens, knot-counting, notch-tally), astronomy (divisions of day and night, star-names, milky way as rain-sign, eclipses, new moon, astral superstitions), arithmetic (ordinal and cardinal numerals, use of fingers in counting 1-12, toes rarely used), currency and value (brass rods), weights and measures (sleeps, position of sun, a "padding," arms-fathom), trade (exchange of various merchandise and manufactured products between person and person, town and town, and even between districts; slave-labor; no markets and no market-places; credit, dunning, wife seized by creditor; trade language), property (land owned by men, women, children, if cleared for farms, also slaves bought or inherited; river joint-property of town for fishing purposes; money lent and borrowed; right in palm-trees by planting or inheritance; slaves held property by master's permission), inheritance, slavery, government (no great paramount chiefs; each town had its set of families and each family its mate or head, the eldest son; in a district usually a chief appointed by all the town to act as judge), justice and crimes (blood revenge, theft, homicide; drunkenness and madness no excuse; retaliation in kind; jury trial), organization (houses and villages; family—"those who sit around the same fire"; birth only membership of the tribe), kinship (hazy ideas of relationship, list of terms in Lutoba and Intong), marriage (young girls and even babies betrothed, wooing and bride-gifts, polygamy when can be afforded, punishment of husband for ill-treatment, virgins rare above age of five, divorce, forbidden degrees), family (status of child depends on freedom or slavery of one or both parents, blood-brotherhood and milk-brotherhood), widows

(really none, because they become wives of the heir), morals (words for good and bad, *lau* and *bi*, have wide range of meaning; public reprobation visited upon doers of wrong acts when clumsily performed; death and disease abnormal states produced by witchcraft and fetishes of enemies; adultery a personal injury), sexual relations (free access from early age to puberty, after that restrictions upon girls; illegitimate children; masturbation; bestiality; sodomy common), death and burial (causes of death; decoration of bodies of important persons; coffins often made out of old canoes; mourning rage; three kinds of graves; slave-killing in former times; funeral rites; treatment of suicides, personal ornaments (painting and decking out of pregnant woman), metallurgy (social position of smith high; fire not to be polluted); fire (new fire, extinguishing fire); food (mud-eating; European salt avoided); cannibalism; narcotics (sugar-cane wine); hunting and fishing.

Werner (A.) Some recent linguistic publications. (J. Afric. Soc., Lond., 1910, 289-310.) Reviews and critiques of Edgar's *A Grammar of the Gbari Language*, etc., Chatelain's *Thonga Pocket Dictionary*, Steane's *Kleine Fullah-Grammatik*, Kote's *Grammatik des Chassu*, Raum's *Versuch einer Grammatik der Dschagga-Sprache (Moschi-Dialekt)*, Meinhof's *Die Sprachen des dunklen Weltteils*, Brockelmann's *Précis de Linguistique Sémitique*, etc. Recent progress in the classification of African languages is noted. The similarity in grammatical structure between the members the "Bantu family" is striking, even where great difference in vocabulary exists. The "Negro group" may represent an earlier stage of development than Bantu. Meinhof believes that "Bushman is built upon a monosyllabic basis, and belongs to the Sudanese family."

Wiedemann (A.) Ägyptische Religion 1906-1909. (A. f. Religsw., I, pag., 1910, XIII, 344-372.) Reviews and critiques of works by Naville, Erman, Amélineau, Petrie, Foucart, etc., on general topics; Schneider (ancient Egyptian culture and ideas); Massey (Hamitic origin of Egyptian, Aryan and Semitic mythology and religion); Issleib, Meyer, Jeremias (Egyptian and Jewish religions); Dareasy, Weill, v.

Bissling, Davies, Baertsch, Naville, Loret, etc., dealing with special deities, ideas of monotheism, etc.; Mader, Otto, on cults and priesthood; Sethe, Lacau, Pierret, Davis, Loret, etc. (Osiris and related topics); Meyer, Moret, Schäfer, Garstang, Pieper, Newberry, etc., on graves, grave-gifts, amulets, magic, etc.

Witte (A.) Zur Trommelsprache bei den Ewe-Leuten. (Anthropos, St Gabriel-Mödling, 1910, v, 50-53, 1 pl.) Describes briefly the drum-language of the Ewe (borrowed from the Ashanti; the phrases belong to the Tshi dialect) with seven specimen sentences. The key-note is "drum as you speak"; long syllables are struck long, short short; on the "male" drum with the right hand, high tones on the "female" drum with the left hand lower. Only a few individuals in each village know the "drum language." The "drum language" is a sentence-language, not a mere collection of conventional signals.

Work (M. N.) African agriculture. I. Its origin and early history. (So. Wkmm., Hampton, Va., 1910, xxxix, 615-618.) Treats of legends dealing with the origin of agriculture (Fjort attribute its origin to children; Swahile story of tobacco; Fjort and other legends of Earth as mother of all things), prayers and devices for rain, ceremonies connected with the harvesting of crops, sacrifices to harvest deity, festivals of "the new yam," etc. Agriculture is very ancient among the Africans and widespread over the continent; agricultural implements are few and simple.

ASIA

Abdullah (S.) et (MacIer (F.)) Études sur la miniature arménienne. (Rev. des Ét. Ethnogr. et Sociol., Paris, 1909, II, 280-302, 345-366, 5 pl., 15 figs.) Treats of Armenian miniature as represented in the Indjudjian Ms., of the 17th century (1683), now in the collection of M. Indjudjian of Paris (it came from Sivas, the ancient Sebaste, in Asia Minor). The Ms. is an *ośmavurkh*, containing the lives of the saints (Armenian; Greek; Latin up to the 6th century; Syrian), the greater part being Greek and the martyrology reaching to the 10th century,—to all this are added the lives of St Nerses

Chnorhali and St. Nerses Lambronatal, of the 12th century. The chief types represented in the miniatures are described with some detail. Some Armenian Mss., prior to 1000 A. D. are listed and briefly considered on pages 292-297. The rest of the first article deals with the miniaturists and the schools of miniature. The second article gives a list of ancient convents and illuminators who have worked in them; also (pp. 347-364) a chronological list, from 1019 A.D. to 1795 A.D., of known illuminators, etc. The Indjudjian *ośmavurkh* is "a perfect type of the Armenian illuminated Ms."

Aus Kurdistan. (Globus, Brnschw., 1910, xcvi, 366-368.) Résumés data in Capt. B. Dickson's account of his travels in the parts of Kurdistan lying east of the Tigris, in the *Geographical Journal* (Vol. XXXV., 357-379). Physical character (a "Semitic" type is marked in the south), tribal divisions, village, agriculture, manners and customs, religion, family-life, of the Kurds and "Assyrians," etc.

Aziz (P.) Della differenza fra la grammatica e scrittura araba e la grammatica e scrittura siriana. (Anthropos, St Gabriel-Mödling, 1910, v, 444-453.) This Italian translation from Arabic is an extract (6th session) from the debate between Elia Bar-scina, Nestorian Bishop of Nisibi, Mesopotamia, and the Vizir Abi Alkasim Al-husein ibn Ali Almagribi, on the difference between Arabic and Syriac grammar and writing, from a book left by the Bishop. The Bishop maintains the superiority of Syriac and the greater beauty, exactness, and utility of Syriac writing as compared with Arabic.

Babylonian legal and business documents. (Rec. of Past. Wash., 1910, ix, 84-88, 6 figs.) Notes and extracts from the Babylonian documents published by the University of Pennsylvania.—*Babylonian Expedition*, Vol. VI, Pt. 2.

Bade (W. F.) A Semitic discovery in Rome. (Amer. Antiq., Salem, Mass., 1910, xxxii, 115-117.) Notes on excavation of the second Syrian temple (beginning of 4th century A.D.) on the Janiculum, "devoted to the worship of a Syrian Baal, in one of the composite forms which foreign cults usually assumed in a Roman environment."

Baron Budberg (R.) Aus der Mand-

- schurei. Die Chunchudzen. (Globus, Brunschwig., 1910, xcvii, 149-153; 168-173, 2 figs.) Treats of the Chunchudzen ("red beards"), robber-bands or "cossacks," of the northern frontier of the Chinese empire, their depredations, the Chinese efforts at repression, methods of punishment (torture, beating, fettering of various sorts, beheading, strangling), with details of an execution, etc.
- Chineseische Prostitution. (Ibid., 317-319.) Treats of prostitutes in China, their origin, distribution, conditions of life, etc. Prostitutes by free will and for their own "benefit" are very few. The chief source is the sale of children by their parents in times of need, etc. They are closely connected with public houses and the stage. Prostitution is really not so wide-spread in China as in Europe and is most prevalent (as are sexual diseases) in places open to international trade. The large Chinese brothels resemble the "Fingeltangel" of Germany.
- Zur Charakteristik chinesischen Seelenlebens. (Ibid., 1910, xcvi, 111-113.) Notes on psychology of the Chinese: Confucianism as satisfactory substitute for religious system, crime and its causes (due in part to lack of consolatory faith), paralyzing effect of schools, toleration (remarkable), soul-lore, folk-medicine, ancestor-cult.
- Becker (C.). Die Nongkrem-Puja in den Khasi-Bergen, Assam. (Anthropos, St. Gabriel-Mödling, 1909, iv, 892-902, 5 pl.) Treats of the great yearly ceremony of *Nongkrem-Puja*, or goat-killing of the Khasis of Nongkrem in the mountains near Shillong. The preparations, sacrificial ceremony itself, and the festival afterwards are described with some detail. The religious and social ideas and customs of the matriarchal Khasis are revealed in this great rite, which is usually celebrated in May.
- Bertrand de Chazand (—). La mission de Lacoste dans la Mongolie septentrionale. (Bull. Soc. d'Anthr. de Paris, 1910, vi, s. 1, 127-133.) Notes on the de Lacoste expedition of 1909 in northern Mongolia. Ourga (the Lama city, of "the living God"), ruins of Karakorum in the valley of the Orkhon, Oulissontai, Kobdo, etc. At Ourga anthropometric measurements were taken in detail of 80 Mongols. In the discussion, M. Deniker cited the Mongol-Kalmuck proverb "Ears are deceitful, eyes truthful."
- Bhutan (Globus, Brunschwig., 1910, xcvii, 98.) Brief résumé of article by J. C. White in the *Geographical Journal* for January, 1910. W. finds among the better classes of the Bhutanese 3 different types (a broad-, pleasant-faced, "rather French in character"; a "Semitic"; an oval- and fine-faced).
- Boerschmann (E.). Architektur- und Kulturstudien in China. (Ztschr. f. Ethnol., Berlin, 1910, xlii, 390-426, 23 figs.) Gives results of author's investigations in 1906-1909 (14 Chinese provinces were visited). Notes on Chinese wall, palaces, and temples, flux of Chinese population, classes of society, seclusion, philosophy of Lao-tse, Chinese and Buddhist conception of universe, diagrams, temple of heaven in Peking, pagodas, temple of T'ai-shan in Shantung, Confucius temple in Wan hsien in Szech'uan, dragon-figures, plans of Chinese cities, holy mountains (5 old Chinese: T'ai-shan, Hengshan, Hua-shan, Sungshan, Hengshan; and 4 Buddhist), rock and cave temples (the sign for *spirit* is composed of those for *man* and *mountain*), family-graves and their characteristic architecture, altars, ancestor worship and cult of the dead, etc. Chinese basal ideals are the vastness and unity of conceptions, fundamental male and female forces in universe, 8 diagrams (rhythm and harmony), unity of man with nature.
- Burlingame (E. W.). Buddhaghosa's Dhammapada Commentary, and the titles of its three hundred and ten stories together with an Index thereto, and an Analysis of Vaggas I-IV. (Proc. Amer. Acad. Arts and Sciences, 1910, xlv, 467-550.) Brief analyses are given of 14 stories in Bk. I, 9 in Bk. II, 9 in Bk. III, and 12 in Bk. IV.
- Burne (C. S.). Occult powers of healing in the Panjab. (Folk-Lore, Lond., 1910, xxi, 313-334.) Based on data collected by H. A. Rose. Treats of cure by touch or contact (direct and indirect) with certain persons (fishermen, Jats, Brahmans, fakirs, "descendants of the Prophet"), special healings by touch, healings by contact with the tombs of saints, shrines, etc., drinking the water of sacred wells, going into

sacred groves, cures by breathing on the patient, cures by voice, charms, incantations, formulas, amulets, cures by combined virtues of healer and words (specimen incantations for bites of snakes and stings of scorpions, pp. 329-331), written charms, etc. In much of the folk-medicine of the Panjab the sympathetic or symbolic rite is secondary, the essential element of magic being "the occult power (the 'virtue,' the *mana*) of the wonder-worker, or of the words or materials (plants, water and so on) used by the 'cunning man.'"

Cadière (L.) Sur quelques faits religieux ou magiques observés pendant une épidémie de choléra en Annam. (*Anthropos*, St Gabriel-Mödling, 1910, v. 519-528.) First section of account of Annamese superstitions and religious ideas and practices in time of a cholera epidemic (supplication to Heaven, vows, offerings to dead, cult of the spirit of a boundary-stone, etc.) and discussion of the data.

Chémali (B.) Naissance et premier âge au Liban. (*Ibid.*, 734-747, 3 pl.) First part of account of the ideas and practices of the people of the region of Lebanon (Syria) concerning birth and childhood. Sterility and conception (sterility a dishonor, diet of pregnant woman, divination for birth of son; pregnant woman fecundates fruit-trees), birth (mid-wife, ceremonials, son preferred), cradle, naming the child (lucky and unlucky names), suckling, sanitary and curative procedures, superstitious practices (evils due to bachelors, old maids, menstruating women; evil eye; dentition, dreams, good and bad auguries), amulets, etc.

Crawshaw (A.) An Armenian household. (*Oxf. & Cambr. Rev.*, Lond., 1909, no. 7, 61-65.) Treats chiefly of bridal chamber and contents in house of banker in a town of Asia Minor.

Dahmen (F.) The Kunnuvans or Mannadis, a hill-tribe of the Palnis, South India. (*Anthropos*, St Gabriel-Mödling, 1910, v. 320-327, 2 fgs., 4 pl.) Treats of caste subdivisions, villages (usually in some deep, broad valley), houses (like those of the plains), diet (chiefly vegetarian; animal food rare and reserved for feasts; Sinna Kunnuvans eat rat-snake and short jackal), dress (that of women only calls for

special notice), occupation (agriculture chiefly, both sexes), cattle, village officials (each village has its chief, with his *mandiri* or "minister," i. e., helper), village assemblies, religion (greatly resembles that of plains; Subramanayan and Puleiyar, sons of Siva, chief objects of worship; temples), origin-legend, marriage and marriage-rites (every man has claim to paternal aunt's daughter; child-marriage, polygamy, marriage-ceremony, bride-price, pouring of water, tying of the *tali* or neck-jewel, divorce easy and common, door-post marriage,—leads to prostitution), etc. Most of Father D.'s data relate to Periya Kunnuvans whom the Jesuit missionaries are now seeking to evangelize.

Daniel (C.) Armenische Märchen. (*Z. d. Ver. f. Volksk.*, Berlin, 1910, xx, 74-78, 323-326.) German texts only of 5 Armenian tales (recorded in Constantinople from a youth of Agn on the Euphrates, who heard them from his grandmother: The imprisoned boy, The horse of Kaimakam (pp. 74-76), The boy with the golden hair (pp. 76-78), the wise magician (pp. 323-325), The covetous man. The first is the "Dreamseer" in Chalatianz's collection of Armenian tales and legends; the second belongs with Grimm's "De Gaudet un sien Meester"; the third with "Grindkopf" and the fourth with "Doktor Allwissend."

Dirr (A.) Fünfundzwanzig georgische Volkslieder. (*Anthropos*, St Gabriel-Mödling, 1910, v. 483-512.) Gives native text, translation, and music of 25 Georgian folk-songs selected from publications of J. G. Kargaretheli (1899) and D. Araquishvili (1905), the collection of the latter having been intended for the public schools of Tiflis and Kutais. Georgian folk-songs include "table-songs," love-songs (very numerous), harvest-songs, etc., work-songs, lullabies, etc., the characteristics of which are briefly noted. In the 25 songs the Gurians, Mingrelia, Kartvelians, Kachetians, Imerians, etc., are represented.

Dodd (Isabel F.) An ancient capital. (*Nat. Geogr. Mag.*, Wash., 1910, xxi, 111-124, 11 fgs.) Treats of the ruins and sculptures of Boghaz Keouy, a modern Turkish village in northern Cappadocia, but in the 16th and 15th centuries B. C. a great fortified city

of the Hittites. The Hittite double-eagle, figure of Amazon, pictured rocks (two galleries with remarkable series of figures), secret passages and tunnels, cuneiform clay tablets (still undeciphered),—some in Hittite, some in Assyrian, but no bilinguals are considered. According to Prof. D., "Assyrian cuneiform claimed more importance and a greater vogue than did Latin, since for 3000 years and more it was the language of commerce and literature among all the civilized nations of the world."

Forder (A.) Excavated Jericho. (Rec. of Past, Wash., 1910, ix, 202-207, 5 figs.) Notes on the hovels of sun-dried bricks; remains of a small citadel, Canaanitish wall (possibly the original wall of the city); pottery, primitive hand-mills, door-hinges, skeletons under foundations, etc.

Forrest (G.) The land of the cross-bow. (Nat. Geogr. Mag., Wash., 1910, XXI, 132-156, 16 figs.) Treats of the Upper Salween basin in Burma, from whence the Lissoo race are thought to have spread N. E., E., and S. over Yunnan and parts of N. W. Szechuan,—the cross-bow, with poisoned arrows, is their characteristic weapon. Contains notes on women's ornaments, rope-bridges, cross-bow and its use, Lissoo character, food (rice a luxury, wild-honey staple), houses, etc.

Franke (O.) Die religionswissenschaftliche Literatur über China seit 1900. (A. f. Religsw., Lpzg., 1910, XIII, 111-152.) Résumés and critiques of publications on Chinese religion. The works of J. J. M. de Groot, Dvorák, Parker, Grube, Giles, Heigl on Chinese religions in general, and Courant (Corean), Finot (Chams), Gillhodes (Kachins); Courant (monotheism), Chavannes (sun-god), Farjenc (ancestor-worship, imperial cult), Havret ("heaven-lord"); Tscheppe (cult-places and sanctuaries of Confucius, etc.); Moule (Confucian sacrifice, musical instruments); Haden, Edkins, Hattori (Shuncius); MacLagan, Kingemill, Taussaint, Hartmann, Ular, Hey-singer, Giles, Suzuki and Carus, Fal-jenel, on Taoism and Lao Tze; Parker, Watter Chavannes, Huber, Takakusu, Suzuki, Richard, Carus, Pelliot, Laufer (on Uigur Buddhist literature) Franke, on Buddhism, etc.; Grün-wedel, Laufer, on Lamaism; Williams,

Magel, Macgowan, Grube, Stenz, Box, Walshe, Dols, Volpert, Carus, Betts (Miao-tse), on folk-religion and folklore; Müller, v. le Coq, Bonin, Havret, Tobar, Pelliot, Laufer, on foreign religions (Mandéism, Manichaeism, Nestorianism, Judaism, etc.) in ancient China.

Friedländer (I.) Zur Geschichte der Chadhirlegende. (Ibid., 92-110.) Treats of the origin of the Chadhir legend, name (Al-Chadir, "the green one," the sea-demon into whom the cook of Alexander the Great was changed), the relationship of the tale (*Pseudo-Kallisthenes*, rabbinic legends of Elijah, the Koran; Christian traditions; Oriental, particularly South-Arabian and Abyssinian, identification of Chadhir with Melchisedek; genealogies of Chadhir; relationship to Messianic legends and ideas; identification with St George and with the Wandering Jew).

— Alexanders Zug nach dem Lebensquelle und die Chadhirlegende. (Ibid., 161-246.) Treats in detail the march of Alexander the Great in search of the fountain of life (the fountain episode occurs in his letter to his mother Olympias and his teacher Aristotle) and the legend of Chadhir. The *Pseudo-Kallisthenes* (the work from which Alexander-legends of all times and lands have borrowed; here the fountain-march legend appears for the first time), the Talmud (the Babylonian Talmud enlivens the legend with a tale of his finding of Paradise), the so-called *Homily* of the Syrian bishop, Jacob Sarūg (d. 521 A.D.; this is a metrical version of the Syrian Alexander legend, which arose ca. 514-515 B. C.), the Koran (cf. Sura 18, verses 59-63 and verses 82 ff., where borrowings from the Syrian legend have taken place), Chadhir and the cook of Alexander, etc., are discussed. According to F., "the Syrian form of the legend of the fountain of life is the bridge that unites not only the legend of the *Pseudo-Kallisthenes* but also the Glaukos legend with the Mohammed Chadhir-idea" (p. 237). In the gradual expulsion of the heathen elements of the fountain of life legend the Glaukos-Chadhir sea-demon lost his identity and was almost forgotten. Later he is raised from the humble position of cook or servant of Alexander

- and becomes his vizir, and gradually overshadows the great Macedonian himself, and so assumes an integral rôle in the oriental Alexander-legends.
- Gaudin (P.) et Regnault (F.)** Une paire de lunettes antiques. (Bull. Soc. d'Anthr. de Paris, 1910, vi^e s., 1, 7-8, 1 fig.) Brief description of an ancient pair of glasses of the double-monocle type from the excavations at Smyrna. They probably are intrusive and not really "ancient."
- Gilbert (O.)** Spekulation und Volksglaube in der ionischen Philosophie. (A. f. Religsw., Lpzg., 1910, xiii, 306-332.) Treats of speculation and folk-belief in the Ionic philosophy. Pantheism and monism, cosmogonic ideas, conceptions of deity (particularly in Heraclitus. G. concludes that "the Ionic doctrine of deity and of deities was not a break with folk-belief, but an attempt to comprehend and base this more firmly."
- Gilhodes (C.)** La culture matérielle des Katchins, Birmanie. (Anthropos, St Gabriel-Mödling, 1910, v, 615-634.) Treats of habitat, tribal and social divisions (5 principal families; 2 classes (*Du ni*, seigneurs, and *Tarat ni*, commoners), origin (from North, probably some part of Tibet; origin-legend), physical characters, clothing and ornament, head-dress, food (women cook, but sometimes men and even children; 3 meals a day; meat favorite), drink (water chiefly; also *phye* or beer, and brandy obtained from Chinese and Shans), tobacco (chewed); a few men smoke; no snuffing; betel), opium (use widespread), travel and hospitality, dwellings (form, construction, site, house-festival, decoration, furnishing, barns, etc.), disposition of village, fire (bamboo-friction; fire-place in center of each chief room; exorcism of the *nat* of fire and legend of its origin), etc.
- Goldstein (—)** Gibt es einen Berg Ararat? (Globus, Brnschw., 1910, xcvi, 190-191.) Points out that in Hebrew *Ararat* refers to a region or country not a mountain, and questions Sven Hedin's recent use of the term "Mt Ararat."
- Grimme (H.)** Über einige unbegründete Vorwürfe des Korans gegen die Juden Jathribs. (Anthropos, St Gabriel-Mödling, 1910, v, 529-533.) Discusses Sura 4.48 and Sura 2.98 of the Koran in which the Jews are rebuked. The three phrases objected to by the Prophet are harmless dialectic forms due to the Aramaic influence on Arabic spoken by the Jews of Jathrib. No religious offence on their part is connoted by these passages in the Koran.
- Grünwedel (—)** Die archäologischen Ergebnisse der dritten Turfan-Expedition. (Z. f. Ethnol., Berlin, 1909, xli, 891-917, 22 fig.) Résumés the archeological results of the third Turfan expedition 1904-1906. The various styles of sculpture, etc. (Gandhāra, "horsesmen with long swords," older Turkish, later Turkish, Lamaistic), are described and the chief examples discussed, as represented in the temples, caves, etc. At Turfan the intellectual atmosphere is full of care of "death and devil," while around Kutsha the thing sought after is salvation and the exercise of transcendent virtue. Remarkable is the poor material underneath these gilded pictures. Wonderful effects were produced in this way. But decay and destruction have also been easy and one can find a basket-cover that was once a Buddha's halo.
- Haas (H.)** Religion der Japaner 1905-1908. (A. f. Religsw., Lpzg., 1910, xiii, 373-397.) Reviews and critiques of works on Shintoism, Buddhism, Confucianism. Publications of Wenckernstern (bibliography); Lange, Florenz, Aston, Revon, all treating of Shintoism; Hackmann, Haas, Lloyd, Suzuki, dealing with Buddhist themes; Inouye, Lloyd, Knox, etc., on Confucianism and Philosophy.
- Harris (E. L.)** The American Excavations at Sardes. (Rec. of Past, Wash., 1910, ix, 278, 2 figs.) Note on excavations of April-June, 1910. Probable temple of Cybele discovered; also one of three or four known Lydian tablets; golden trinkets and pottery from the tombs, etc.
- Hartmann (R.)** Damaskus. Lage und Bild einer orientalischen Grossstadt. (Globus, Brnschw., 1910, xcvi, 303-305.) Briefly describes Damascus, situation, plan, building, etc.
- Hervé (G.)** Le Chinois Tchong-A-Sam à Paris. Note et rapport inédits de L.-F. Jauffret et de Le Blond à la Société des Observateurs de l'Homme, an VIII. (Bull. Soc. d'Anthr. de Paris 1909, v^e s., x, 171-179, 2 figs.) Publishes with notes the reports of Jauffret and Le Blond on Tchong-A-Sam,

- a young Chinaman in Paris in 1800, having been brought to Bordeaux as a prisoner from a captured English vessel. He was not the first Chinaman seen in France. The presence of one Chin-Fo-Tsung is noted in 1687 and one named Hoang married and died in Paris, 1716.
- Higgins (F. C.)** A Chinese bronze tablet of the Sung dynasty. (*Amer. Antiq.*, Salem, Mass., 1910, XXXII, 41-44.) Describes, with translation of inscription (ca. 976 A. D.), a tablet in the possession of Mr D. Proskoy of New York. The text is in "seal" characters, and refers to the erection of a memorial urn to the Emperor Tai Tsung.
- Hodson (T. C.)** Some Nāga customs and superstitions. (*Folk-Lore*, Lond., 1910, XXI, 296-312.) Treats of "men's houses," eschatological beliefs, cleavage by sex in this world and the next, tabu of flesh of male animals to unmarried girls, treatment of children up to puberty; tattooing as a pre-nuptial or quasi-initiatory rite, head-hunting, tests of physical and mental strength, distinctions made between the married and the unmarried; "before and after marriage," *gennas* or communal rites with special food-tabus, birth-*gennas* (pp. 308-312).
- Hoogers (J.)** Théorie et pratique de la piété filiale chez les Chinois. (*Anthropos*, St. Gabriel-Mödling, 1910, v, 1-15, 688-702, 4 pl., 2 figs.) Treats of filial piety in theory and practice among the Chinese. At pages 604-702 are given a translation (and reproduction of illustrations) of the little book on *The 24 traits of filial piety*. Chinese practice of filial piety is "external rather than spontaneous." The theory is an apotheosis of the parents.
- Hubert (H.)** L'origine des Aryens. À propos des fouilles américaines au Turkestan. (*L'Anthropologie*, Paris, 1910, XXI, 519-528, 15 figs.) Based on R. Pumpelly's *Exploration in Turkestan: Expedition of 1904. Prehistoric Civilizations of Anau*, etc. (Washington, 1908, 2 vols.). Treats of the pottery of Anau. H. is of opinion that the cradle of Aryan civilization was in Asia and perhaps south of Turkestan.
- Huntington (E.)** The fringe of verdure around Asia Minor. (*Nat. Geogr. Mag.*, Wash., 1910, XXI, 761-775, 15 figs.) Contains notes on the region and people of Girmeh, Kuzzililar, Adana, etc.
- The illustrations are of ethnologic interest.
- Junor (K. E.)** Curious and characteristic customs of China. (*Ibid.*, 791-806, 8 figs.) Treats of great forces of life (belief in an omnipotent force, not always a person); deep sense of retribution, inevitable for all men; reverence; sense of filial obligation; form of government (an imperial democracy); literature (scholar's rule; the "superior man" corresponds to our "good man"); dignity of correspondence; position of the sexes (woman degraded); etiquette of the table; Orient and Occident; delicacies of the table; inventions and artistic and industrial skill; view of the foreigner; ancestral worship and fear of devils; the logic of the Chinaman and his spirit zone; driving out devils; power of money; exalted ideas embodied in proverbs.
- Karutz (R.)** Von kirgisischer Hochzeit und Ehe auf Mangyschlak. (*Globus*, Brunschwig, 1910, XCVII, 37-43, 9 figs.) Based on information obtained in 1909 from an intelligent Kirghiz of Alexander fort, named Ura, and adds to the information in Pallas, Radloff, Schwarz, Lansdell, etc. The Kirghiz wedding really consists of seven "weddings," or ceremonies of a festal sort. The present ritual and other performances are a mixture of old customs and new additions,—unmistakable relics of bride-theft with compromises of a more peaceful epoch, regulations of patriarchal strictness with the lax concessions of decaying customs. Although polygamy is allowed half the Kirghiz are content with one wife; the rest with not more than two.
- Kasi (M. M. D.)** Der Kurdenstamm Manggur. (*Ibid.*, 1910, XCVIII, 213-215, 2 figs.) Notes on the Kurdish tribe Manggur, south of Saudshbulagh towards the Wesneh mts. Chief, history, nomadism, fighting, duels, religion (all Sunnites), etc.
- Ketkar (S. V.)** Inaccurate anthropologic data regarding India. (*Amer. Anthrop.*, Wash., 1910, N. S., XII, 133-134.)
- King (L. W.)** Transcaspian archeology. (*Nature*, Lond., 1910, LXXXIII, 157-159, 3 figs.) Résumés R. Pumpelly's *Explorations in Turkestan: Expedition of 1904. Prehistoric Civilization of Anau* (Wash., 1908). K. regards P.'s suggestion of such dates as 8000 B. C.

for the beginning of the Neolithic settlement at North Kurgan as "wholly fanciful."

Kohlbach (B.) Spuren der Tätowierung im Judentum. (Globus, Brnschw., 1910, xcvii, 237-241.) Cites evidence as to the former practice of tattooing among the Jews. According to Dr. K., "the *tefillin* (phylacteries) are the most important residuum of former tattooing among the Jews"; the blood-sign was probably tattooed on the forehead and right arm of the first born son, at the time of the Exodus, etc. In the blood-signs on the door-posts, the *mezuzah*, we have the transference of the tattooing to the dwelling.

Kohler (K.) Seltsame Vorstellungen und Bräuche in der biblischen und rabbinischen Literatur. Ein Beitrag zur vergleichenden Sagenkunde. (A. f. Relig., Lpzg., 1910, xiii, 75-84.) Treats of the significance of Job, 5: 23 ("stones of the field," etc.), where the mandragora-root seems to be referred to, and *no'*, as some have thought, a semi-human creature; certain customs and ceremonials (symbolic of re-birth or renewal of life) performed among the Jews on occasion of the return of one long absent, etc.; marking with blood and the phylacteries (the blood-sign belonged to persons and houses in ancient Jewish times; like the phylacteries they have developed from amulets for the body and for the house). See also p. 84.

Langenegger (F.) Die Grabesmoscheen der Schi'iten in Iraq. (Globus, Brnschw., 1910, xcvii, 231-237, 5 figs.) Describes the grave-mosques of the Shi'ite Mohammedans in Iraq (Babylon),—the sanctuary of the Mahdi at Samarra on the Tigris, the grave-mosques of Kazimejn (near Bagdad), of Hussein near Kurbela, of Ali in Meshed Nedjef, etc. The architecture of these mosques resembles most that of Persian structures of a like sort. The cemetery of the Shi'ites near Bagdad is also described.

Lannelongue (M.) Une fonction supplémentaire du pied dans la race jaune. (C. R. Acad. d. Sciences, Paris, 1910, cl, 503-507.) Treats of use of foot as a prehensile organ among the peoples of the yellow race (Chinese, Japanese, etc.). Objects are easily picked up by the toes. Position of feet in sitting,—several varieties. Boatmen "steer

with hands and row with feet." Special adaptation of foot for diverse uses,— "mice caught alive."

Laufer (B.) Zur kulturhistorischen Stellung der chinesischen Provinz Shansi. (Anthropos, St. Gabriel-Mödling, 1910, v, 181-203.) Gives results of observations during a journey from Tai-Yüan to Hsi-an in February, 1909. The peculiar character of the culture-zone of Shansi is pointed out and the need emphasized of the study of "the geographical differentiations of all phenomena of culture" in China. Of the folk in China the most important class for the ethnographer is the peasant, the laborer and workman. L. treats in some detail the peasant-house of Shansi (construction, ornament, etc.,—the "soul" of the Chinese house is not the hearth but the roof), village-arrangement, etc. The Chinese house has been decentralized from time immemorial. It also illustrates well "the non-identity of culture and psyche"; the impossibility of applying to China the European "genetic" successions of stone, bronze, iron, etc., is also indicated. In the great car of Shansi is to be seen the primitive type of the Chinese wagon. Modern China is built up on two culture-zones, North and South. The North (e. g. Shansi) represents the older, Chinese culture proper (under strong Siberian and Central Asiatic influences); the South largely non-Chinese (and under S. E. Asiatic influences). Shansi exemplifies a culture-zone created by local differentiations and foreign historic influences in combination.

Laurentil (I.) Der persische Bauer. (Globus, Brnschw., 1910, xcvii, 62-63.) Notes on the Persian farmer. In Persia, agriculture is the basis of everything. The life of the Persian peasant needs to be made freer.

Leclère (A.) Le Zodiaque Camodgien. (Rev. des Ét. Ethnogr. et Sociol., Paris, 1909, ii, 159-174, 1 pl., 4 figs.) Describes in detail the Cambodian zodiac (the 12 *tenodes* of the little cycle, the signs of the 12 years of the little cycle, the 12 signs of the solar zodiac, the circle of the 27 signs of the lunar zodiac, the signs of the 12 months, etc.). L. thinks that the Graeco-Egyptian zodiac may have been brought to India by the successors of the generals

of Alexander; the Hindu zodiac was in Cambodia in the 9th century. A. D.

— L'Almanach Cambodgien et son calendrier pour 1907-1908. (Ibid., 367-373.) Treats of the Cambodian almanac and calendar for 1907-1908, "the year of the serpent, the ninth of the little cycle," with translation of the Cambodian original.

Legendre (A. F.) Far West Chinois. Kientchang. Les Lolos. (R. de l'Éc. d'Anthr. de Paris, 1910, xx, 185-205, 7 figs.) Based on personal observation, etc., of the Lolos of western China, 1907-1909. Treats of habitat, dwellings, furniture, utensils, etc.; weaving of woolen garments and making of "rain-coat"; physical and moral characters (vigorous and healthy; would make perfect soldiers if they had perseverance; vendettas; slavery mild; altruistic towards feeble, women, child, aged, etc.; honest); family, clan, tribe (family independent, education merely physical, male descent, clan-exogamy, feudalism, 3 castes; ordinary theft within clan does not exist; intertribal and inter-clan robberies; murder by member of another tribe causes war; products of soil belong to cultivator and not to clan-chief); religious ideas (belief in good and bad spirits, the latter only being supplicated by shamans, never by the party interested; augury by scapulum of goat or sheep; traditions (origin-myths, first man fell from sky; deluge-legend.—Sifan, Lolos, and Chinese descended from 3 sons of brother and sister who escaped flood in wooden chest), funeral rites (cult of dead not known before meeting Chinese), etc. At pages 199-204 are notes on utensils (no pottery of Lolo origin), currency (none of Lolo provenance), weights and measures, clothing, trades and professions, fire-making, modesty (highly developed); p. 204, translation of Lolo wedding-song. The Lolos are not a compact nation, only one in process of formation.

— Les Lolos. Étude anthropologique. (Ibid., 1910, vi^e s. 1, 77-94, 3 pl. Gives details of anthropometric measurements and descriptions of 19 Lolos of the upper valley of the Kien Tch'ang, on the river Ngan Ning (hunters and shepherds, now become agriculturists, after the devastation of their forests, an art taught them by the Chinese; the latter are also

responsible for the ravages of alcohol among them). These Lolos tend to subbrachycephaly or mesaticephaly (brachycephalic 1, sub-brachycephalic 9, mesaticephalic 7, sub-dolichocephalic 2; average 80.2); stature ranges from 1,560 to 1,780 mm., average 1,684; color of skin close to brunette white, when not bronzed by wind and sun; eye-color chestnut 3.1; the fore-arm is well-developed. Besides the Lolos of fine stature, there are to be found among them (outside of Chinese *mélis*) two other types: a) a rare, markedly negroid type, but with rosy tint of face and bronzed color of skin; b) a type resembling a. Of these two types, both small statured (1,500-1,600 mm.) Dr L. considers a to represent the original inhabitants of the south-western region of China, while b is more allied to the Negro. Evidently, a good deal of race-mixture has occurred in the Lolo country.

v. Löwis (A.) Eine Umformung der Gregoriuslegende im Kaukasus. (Z. d. V. f. Volksk., Berlin, 1910, xx, 45-56.) Gives German text of "The Wanderer out of the river," a variant (probably told by an Armenian) from Transcaucasia, of the Gregorius legend of the "Story of the good Sinner." Variations from the Latin version occur in the absence largely of personal and place names, elimination of unnecessary detail, subordinate personages, elimination of specifically Christian items, smoothing away of individual characteristics, incorporation of certain *märchen*-traits.

Marie de St Étienne (A.) Le culte rendu par les Musulmans aux sandales de Mahomet. (Anthropos, St Gabriel-Mödling, 1910, v, 363-366, 2 pl.) Reproduces, with translation, etc., two leaves, obtained with difficulty at Damascus, the first entitled "Description of the Sandals of the Prophet, etc."; the second represents one sandal only. The figure of the Prophet's sandal is a talisman against evil, etc. The amount of arabesque around the sandals indicates the respect, love, and veneration in which these relics are held.

M. Aurel Stein's jüngste Forschungen in Innerasien. (Globus, Brunschwig, 1910, xcvi, 59-62, 74-77.) Résumés Dr Stein's explorations of 1906-1908 in Kashgar, ruins of Tatis (Graeco-

Buddhist art), Khadalik (Mss. in Sanskrit, Chinese and "Khotanese, unknown tongue," many wooden tablets in these and some in Tibetan), ruins in the oasis of Nija (tablets in Hindu, etc.; from numerous houses explored), Tcharklik, Lopnor (here as elsewhere many Kharoshti documents), ruins of boundary-fortifications (from Anhai on), "Caves of the thousand Buddhas" (sculptural art testifies to relations of India and China during the period of flourishing of Chinese Buddhism),—in this oasis Dr S. discovered many manuscripts, pictures, etc., of which he was able to obtain a goodly number from the priest of the temple. In the ruins of an old boundary fort on the Masartag hill, west of the Jurunkash, a considerable number of documents (Mss. and tablets) were also found.

Meissner (B.) Mondfinsternisse im Volksglauben der antiken und modernen Babylonier. (Mitt. d. schles. Ges. f. Volksk., Breslau, 1909 XI, 113-119.) Compares the idea of the eclipse of the moon being due to its oppression by evil spirits, found in the ancient Babylonian records (cited on pages 116-117), with the same idea reported by Layard of the natives of this region and confirmed by M. on the spot in 1899-1900. The author considers the modern Arabian account to have been borrowed from the Babylonian original.

Luftfahren im alten Orient. (Ibid., 1910, XII, 40-47.) Treats of legends and stories of flying in the ancient Orient. The descent and ascent of deities, the flight of the soul (in Parsee and Jewish religion), the "taking up" of Enoch, Elijah, the ascension of Christ, flying by means of wings or on birds (chiefly eagles), etc. At pages 42-43 is given the description of the flight of the hero Etana, from an ancient Babylonian legend. The tale of the bird-chariot of Alexander the Great (in the *Pseudo-Kallisthenes*), the story of the achievement of Achiqar, the wise minister of Sanherib (used by Maximus Planudes and known to the author of the book of Tobit), etc., are considered.

Michow (H.) Zur Geschichte der Bekanntschaft mit Sibirien vor Jermak. Alte russische Erzählung "Über die unbekannten Völker der Ostgegend." (Mitt. d. Anthropol. Ges. in Wien, 1910,

XL, 1-21, 14 figs., 2 maps.) Treats, after Anutschin, the relations of European Russia with Siberia before the time of Jermak, with special reference to a Russian account belonging to the 15th century ("On the unknown peoples of the Eastern region," i. e., the Obi country, etc.), found in a Novgorod Ms., which has been printed. Nine kinds of Samoyeds are treated of in this account: the cannibal Samoyeds; the Samoyeds who shed their skins; the Samoyeds who are shaggy-haired from the navel down; the Samoyeds who have their mouths on top of their heads; the Samoyeds who freeze up for the winter; the people on the upper Obi who live under ground; the headless Samoyeds, with their mouths between their shoulders and their eyes in their breasts (these shoot out of iron tubes); people who step deep in the ground, on a lake where silent trade is carried on; mountain Samoyeds. Only iron implements are mentioned, acquaintance with the Tungus and other stone and bone using tribes having come later. The illustrations to this paper are of interest; also the maps.

Montgomery (J. A.) The pronunciation of the "ineffable name" according to a Jewish text in the Museum. (Univ. of Penn. Mus. J., 1910, I, 28-30, 1 fig.) Discusses the spelling out of *Yahbêh* (*Yahvêh*) in the proper name of a man Berechiah (Blessed of Yahu) in an inscription on a Hebrew incantation-bowl. M. thinks the exorcist "has expressed the pronunciation of the ineffable name because of its magical potency."

Neiters (R.) Strassenrufe in Tokyo. (Globus, Brnschw., 1910, xcvi, 325-328.) Treats of street-cries in the city of Tokio, Japan. Cries of tinkers and repairers of all sorts, salesmen of various articles, food of all kinds, etc.; cries of buyers (of old or second hand articles, ashes, manure, etc.). Many Japanese street-merchants have onomatopoeic cries. The Japanese children often call out insulting terms to Europeans on the street.

Neues über die Lases. (Ibid., 1910, xcvi, 143-144.) Résumés from the Proceedings of the Academy of Sciences in St Petersburg. Prof. Marr's account of his visit to the Lases, a Grusinian people of the Caucasus. In politics the Lases are all "Young Turks." Ordinarily they use Turkish in conversation,

leaving their mother-tongue "to the women." They are very much Turkized in other respects. Prof. Marr is about to publish a grammar, dictionary, and chrestomathy of the Tchan or Lasic tongue.

- O'May (J.)** Playing the wer-beast: a Malay game. (Folk-lore, Lond., 1910, XXI, 371-374.) Describes a favorite game of boys of the Malay Peninsula. *Hantu musang* (civet-cat demon), in which a boy is "hypnotized" and "turned temporarily into such a beast by possessing him with the 'hantu of the musang.'" If kept so for an hour there is danger of his becoming a real *musang*.

Paradies, Sintflut und die Wiederbewässerung Mesopotamiens. (Globus, Brunschwg., 1910, xcvi, 123-125.) Résumé article of Sir W. Willcocks in the *Geographical Journal* (London) for January, 1910, treating of the site of the Garden of Eden, the deluge, and the possibility of re-watering Mesopotamia.

- Paton (L.)** Some Syrian baskets. (So. Wkmm., Hampton, Va., 1909, xxxviii, 657-664, 18 figs.) Describes varieties of baskets made in the Lebanon (shallow baskets for displaying vegetables and fruits, made of unpeeled twigs; large trays for collecting silk-worms, made of light-colored or peeled oxters; woven rush baskets; split bamboo baskets; sewed baskets) with account of the process of manufacture of the Damascus type and of the sewed basket.

Pileudski (B.) Schwangerschaft, Entbindung und Fehlgeburt bei den Einwohnern der Insel Sachalin. Giliaken und Ainu. (Anthropos, St. Gabriel-Mödling, 1910, v, 756-774.) Treats of pregnancy, childbirth, miscarriages, abortion, etc., among the Giliaks and Ainu of the island of Saghalin. The Giliaks have a special "birth-house," *law-rai*; quiet during the act of giving birth is enforced; no artificial helps are known; new-born children are not called "boys" or "girls" at once; natural miscarriages are common; during the birth-pains of his wife the man "loosens" all he can in the way of dress and personal ornaments, and performs other symbolic actions; in the case of twins one is thought to be a son of the mountain and forest god, and twins are looked on with fear all their lives, those who die in infancy are feared even more. Among the Ainu certain prep-

arations for child-birth taboos are in vogue; the birth takes place with the woman at her accustomed place in the house, but children, young men, and sometimes also adult men are driven out; massage to help delivery is practiced and there are midwives; the facts of birth are not concealed from children; the husband is often helpful and sometimes acts as midwife; women in child-bed are given special attention, cared for and fed well; likewise the child, whose head is "reshaped" by hand-pressure; miscarriages are rare, abortion is much more common among the Ainu than among the Giliaks; transference of infertility is believed in; menstruation is more irregular than with white women; menstrual blood is thought to have talismanic qualities. With the Ainu there are many traces of the time when woman played the chief rôle in family-life.

- Pinches (T. G.)** Discoveries in Babylonia and the neighboring lands. (Rec. of Past, Wash., 1910, ix, 95-112, 2 figs., map.) Slightly abridged from the *Journ. of the Trans. of the Victoria Inst.* (Lond.), vol. xli, with illustrations added. Treats of proto-Elamite discoveries (inscriptions, bas-reliefs, etc.), Babylonian investigations of recent years, etc.

Rao (C. H.) The Gonds of the Eastern Ghats, India. (Anthropos, St. Gabriel-Mödling, 1910, v, 791-797.) Based on visit in 1907. Treats of physical features (not favored; few with curly hair; no case of woolly hair), divisions (3 strictly exogamous), totemism (each division has many totemistic septs), marriage (before or after puberty; ceremonies; "house son-in-law"; eloping; bride-capture; remarriage of widows), religion (numerous deities, spirits, demons, etc.; chief gods worshiped are Budha Deo and Dhula Deo; sacrifices; dead usually burned).

- Rescher (O.)** Weib und Ehe in der Spruchweisheit der Araber. (Globus, Brunschwg.; 1910, xcvi, 186-188.) Cites numerous Arab proverbs concerning woman, marriage, etc., from Mohammed ben Cheneb's *Proverbes d'Algérie* (Algier, 1904-1907), etc. The more or less brutal or gallant sensuality of the Orient appears in many of them. Of ethnological significance is this: "Let him who loves

beauty seek a Georgian, who loves cunning a Jewess, who loves quiet a Christian, who loves pride and fancy a Turk, who loves generosity and nobility an Arab."

Ronzevalle (P. S.) Hittite stela from the environs of Restan. (Rec. of Past, Wash., 1910, ix, 67-69, 4 figs.) Brief account of a stela of grey local basalt found on the right bank of the Orontes, near Restan, in 1902, and rescued later by the author. This inscribed stone is probably the most southerly Hittite monument of the sort yet discovered. The account is translated from the author's original article in the *Mélanges de la Faculté Orientale* (Univ. de S. Joseph, Beyrouth, Syrie, 1909), by H. M. Wright. Hittite monuments of Arslân-Tépé. (Ibid., 69-71, 2 figs.) Treats of four Hittite reliefs from the little hill of Arslân-Tépé, at Orda-Su, a village about an hour north of Malatia, two representing religious scenes. There is need of careful excavation at Arslân-tépé.

Rose (H. A.) Folk-medicine in the Panjab. (Folk-Lore, Lond., 1910, xxi, 83-86.) Items from the Gurgaon district (earth-smelling to test well-water; hydrophobia-cure, cures of stomach-ache, tumors, etc.; hereditary powers,—in one case among the Rohtak Jats in the female line; cures for scrofula, boils, cattle-plague, etc.), Hissar district ("blowing of spells"), Jhilm district (one man "cures" tooth-ache and ring-worm by spells learned from a negro cook in East Africa; amulet for inflamed eyes; charms against evil spirits), Ludhiāna district (snake-bite cure), Salt Range (cattle-healing). In these cures brahmans, fakirs, Koran-reciters, blacksmiths, descendants of saints, children born by the foot-presentation, cattle breeders, etc., all figure as healers.

— Panjab folk-lore notes. (Ibid., 216-217.) Items of good and bad luck, concerning birds and animals (owls, blue-jay, shrike, lizards, snakes, king crow bird, fishhawk), sugar-cane, several plants, etc.

— Fictitious Kinship in the Punjab. (Man, Lond., 1910, x, 17-21.) Treats of various types of fictitious kinship or fraternal relation: Gangā-bahāis (formed irrespective of caste or sex, by

drinking Ganges water together from each others hands, exchange of shawls at a sacred place; *pahul* among Sikhs is similar; adoption (not common as a religious rite; exchanging gānāns or wedding-wristlets and eating rice and milk together by two youths; *pagwat* (looser social bond by exchange of *pagri* or turban); Chādar or orhnā-badal (for women, corresponding to the *pagwat* for men); customs of women in Delhi, terms for adoptive sisters, etc. The applications of the *pagwat*, etc., among cattle-lifters and other criminals is discussed.

Saad (L.) Jaffa. (Globus, Brunschwg., 1910, xcvi, 137-141, 1 fig.) Describe a, with plan, the city of Jaffa (New Testament Joppa), houses, inhabitants, churches, etc. The population of some 35-40,000, is very mixed, including 300 negroes, 600 Egyptians, 100 Armenians, etc.—the Mohammedans number more than half. Dress is taking on more and more a European aspect. It is visited yearly by 4,000 tourists and 9,000 to 10,000 pilgrims.

Schmidt (E.) & **Bartels** (P.) Beiträge zur Anthropologie Südindiens. (A. f. Anthrop., Brunschwg., 1910, N. F., ix, 90-158, 7 pl., 3 figs.) Edited from Ms. of late Dr S. by Dr B. Ethnological introduction (pp. 91-110) treating of European element, Eurasians, Arabs, Persians, Jews (white and "black"), Parsees, Chinese, Burmese, Malays; Aryans, Dravidians, etc.; the historical contact of Indian peoples with others). Pages 110-158 are occupied with anthropological data (descriptions and details of measurements, etc.) concerning 17 Brahmans, 23 Sudras, 23 Wellala, 19 Shanar, 28 Badaga, 22 Toda, 21 Kota, 28 Paria, 27 Malser, 20 Mali-Arrān, 30 Kurumbas, 14 Irulas. The eyes of the southern aborigines show shades of brown like the skin, and the hair is regularly black. Among the Dravidian peoples stature varies from 1,515 mm. (Ullade) to 1,690 (Todas); the cephalic index from 72 (Badaga) to 79.31 (Wellala), the whole range being from 70.4 among the Badaga to 81.8 among the Wellala. In cephalic, facial, and nasal indices there is a marked difference between the tribes of the Nilgiri Hills and the great mass of the Dravidian tribes of

the south, greatest in the nasal index, least in the cephalic.

von Schultz (A.) Der "Turssuk." Verkehrs-geographische Betrachtungen aus dem westlichen Pamir. (Globus, Brunschwg., 1910, xcvi, 105-108.) Describes the nature and use of the *turssuk* (a raft of inflated sheepskins, resembling the old Assyrian raft or skin-boat still in use under the name of *kellek* in Armenia and Mesopotamia) employed on rivers in western Pamir.

Scidmore (Eliza R.) Mukden, the Manchu home, and its great art museum. (Nat. Geogr. Mag., Wash., 1910, xxi, 289-320, 29 figs.) Contains notes on people, dress and ornament, shop-signs, city-life, houses and their adornment, Manchu samovar, dragon throne, Kienlung and Kanghsi pottery, porcelain (the most marvellous collection in the world), tombs of Manchu ancestors, etc.

Shakespeare (J.) Manipur festival. (Folk-Lore, Lond., 1910, xxi, 79-82, 1 pl.) Describes the Kwak Jatra or "Crow Festival" as observed by the author in 1909. It exemplifies the way in which "customs prevalent before the conversion of the people to Hinduism have been adapted to the requirements of the new faith." Part of the ceremony is the shooting of Rāvan the ten-headed, the ravisher of Sita. The Manipur story of how he got his ten heads is given on p. 82.

— Note on the Manipuri "Yek." (Man, Lond., 1910, x, 59-61.) Treats of the 7 main divisions of the Meithei population, known as *sala* or *yek*, each named after a mythical ancestor, and each subdivided into a large number of *sageis* or *yumnaks*, each of these being named after its founder. Each *yek* has "a certain flower, animal, etc., which is preferred by the god of the *yek* and used in his worship." The Manipuri *yek* seems not to be a totemistic division. Originally there were 9 *sala*s or *yek*s.

Stübe (R.) Oskar Münsterberg's "Chinesische Kunstgeschichte." (Globus, Brunschwg., 1910, xcvi, 40-45, 13 figs.) Résumés and reviews O. Münsterberg's *Chinesische Kunstgeschichte*, Bd. I (Esslingen a. N., 1910), which treats of art of the pre-Buddhistic period and of high art, painting, and sculpture from the third century to the present time. A second volume is to deal with archi-

tecture and industrial art. Münsterberg assumes relations of Chinese art with that of the West even in the stone age (third millennium B. C.)

Thompson (R. C.) On some prehistoric stone implements from Asia Minor. (Man, Lond., 1910, x, 71-72, 4 figs.) Brief account of two andesite implements from near Angora, an axehead from near the entrance of the Soghanli Dere, about 25 miles west of the great mountain Argæus, and a beautifully polished serpentine axehead bought at the Hittite ruins of Enyuk. In the country between Angora and Ereğli are scores of tumuli, and at Ajemi is "a prehistoric village of stone-hut circles extending for more than a mile down a small valley."

Vaillant (L.) Note sur un berceau sarte. (Bull. Soc. d'Anthr. de Paris, 1910, vi^e, s., 1, 22-23.) Describes a wooden cradle of the Sartes (the type is common in Russian Turkestan and Kashgaria), its accessories, ornamentation, etc. Its use induces flattening of the occiput, exaggerating the brachycephaly prevalent in this region.

— Le Turkestan chinois. (Ibid., 8-17, 2 pl.) Treats of country, inhabitants, religion, dress, activities, social life, Buddhist remains (terra-cottas, etc. of Toquz Sarai), physical characteristics, race-contact, etc. The Turkestan Muslims have never been fanatics, nor has Islam changed their mentality, still calm and nonchalant.

Volpert (A.) Das chinesische Schauspielwesen in Südschantung. (Anthropos, St. Gabriel-Mödling, 1910, v, 367-380, 8 pl.) Treats of the theater in South Shantung, China. Actors professional (despised by people) and amateur, female companies of players (*Ma bantse hi*); the stage, representation, costume (true to period), texts of plays (taken mostly from old tales, etc.; comedy, *zu hi*, and tragedy, *ku hi*, also love-plays, *fenn hi*), times and occasions of plays (all classes and for various purposes), theater-attendance, etc. At pp. 377-380 the acting of a play witnessed by the author in 1907 is described.

Weissenberg (S.) Die kaukasischen Juden in anthropologischer Beziehung. (A. f. Anthropol., Brunschwg., 1909, n. f., viii, 237-245, 1 pl.) Gives results of anthropometric studies (head and bodily measurements, cephalic, facial, nasal indices, color of skin, hair, eyes)

of 33 Grusian Jews (also 4 Jewesses), and 20 Mountain Jews. The Caucasian Jews are brunette, brachycephalic (with tendency to hyperbrachycephaly).—stature of Grusian Jews averages 1,630 mm., that of the Mountain Jews 1,640 mm.; average cephalic index, of former 85, of latter 84.7. The straight nose is the prevalent form, the "Semitic" type occurring in 20 %. Dr W. believes that the original Semitic type was dolichocephalic, and inclines to accept the view of von Luschian that the Jews had already in prehistoric times mixed with the Armenoid Hittites and taken on their physical type. The East European Jews owe their characteristic traits (since weakened by mixture of European blood) to migration through the Caucasus or to mixture of races there.

Whatham (A. E.) The origin and significance of the worship of the Diana of the Ephesians. (*Amer. Antiq.*, Salem, Mass., 1910, xxxii, 35-40.) Discusses the views of Prof. Ramsay, in his article in *Hastings' Dictionary of the Bible* on "Diana of the Ephesians." W. sees in the goddess in question not "the type of the queen bee, a counterpart to the Diana of the Greeks and Romans," but "the lustful Semiramis of Western Asia, the Astarte of the Hittites, Syrians, and Phenicians, and the Istar of the Assyrians and Babylonians," etc.

Whyte (C. D.) The incest tabu. (*Man*, Lond., 1910, x, 98-99.) Cites the case of the fertility of the Chinese of the south as proof of the incorrectness of the statement of Havelock Ellis, cited by Mr Aston (see *Man*, 1909) that "the pairing impulse is not evoked in boys and girls brought up together from infancy."

Wingate (J. S.) Armenian folk-tales. (*Folk-Lore*, Lond., 1910, xxi, 217-222, 365-371.) English texts only of three tales. The foolish man, Brother lambkin, The magpie, and his tail. The two first are from Bishop Servantiantz's collection of Armenian folk-tales called *Manana* (1878), the third from his later work, *Hamor Hodoc*.

Zimmerman (J.) The Samaritan pass-over. (*Rec. of Past*, Wash., 1910, ix, 131-153, 16 figs.) Describes this "remarkable religious feast" as witnessed by the author at Nablus, on the site of the ancient Shechem, in April, 1904.

Zumoffen (G.) Le néolithique en Phénicie. (*Anthropos*, St Gabriel-Mödling, 1910, v, 143-162, 9 figs., 8 pl.) Treats of the neolithic period in Phenicia (represented by implements of polished stone and crude pottery, here as elsewhere). The "stations" of Ras el Kelb, Djalta (caves, etc.), Ras Beyrouth, Harajel (cave), Tartedj (cave with human bones, etc.). The paleolithic implements, e. g., at Ras el Kelb, seem better preserved often than the neolithic (a fact due to the surface exposure of the latter). For the neolithic implements stone foreign to the Lebanon region was employed. At Ras el Kelb and Ras Beyrouth no remains of fauna have been found; those of Djalta seem to have belonged to species already known to paleolithic man in this region; no remains of domestic animals have yet been discovered. Ras el Kelb was a place for the manufacture of stone implements, etc. Except for parallel lines in many cases the pottery of Djalta is not ornamented. At Ras Beyrouth is "an indescribable pêle-mêle" of heterogeneous objects,—"bits of Phenician glass, fragments of carafes, sardine-boxes, pieces of locks, Italian marble, Egyptian granite, etc."—the refuse-heap of ancient and modern times. The Harajel grotto was not used for human habitation.

INDONESIA, AUSTRALASIA, POLYNESIA.

Alexander (W. D.) The origin of the Polynesian race. (*J. of Race Devel.*, Worcester, Mass., 1910, i, 221-230.) Discusses theory of American origin, antiquity of man in Polynesia, Asiatic origin of the Polynesians, Aryan and Semitic theories, etc. According to A.: "the remote ancestor of the Polynesian race in prehistoric ages dwelt in Northern India," from whence they spread through Farther India into the East Indian Archipelago, driving into the mountains or exterminating the aboriginal black races, being themselves afterward "conquered, amalgamated with, or expelled by Mongoloid tribes from the mainland of Asia; a subsequent migration of the more enterprising to the islands of the Pacific, and particularly Polynesia, took place." Outside of W. v. Humboldt and H. C. v. d.

Gabelentz, the author cites authorities in English alone, and seems to have missed the more recent literature in German, etc. It is hardly exact to state (p. 222) that "the natives of the western coast of America are among the least maritime of known races." Other inaccuracies of statement also occur.

Archambault (M.) Les sculptures et les gravures sur roches de la Nouvelle-Calédonie. (Bull. Soc. d'Anthr. de Paris, 1910, VI^e s. t. 517-530.) Treats of sculptures and engravings on rocks in New Caledonia: "La Mulette" (Né-gropo), "Henriette" (Gouenreu), "Cathédre" (Bouérou), "Grange" (valley of Koua), "Jessie's stone" (Gouenreu), "Françoise" (ravine of Dô-Néva), "Lucien Dubois" (Monfo), "Feillet" (Ponérihouen), Chambeyron (Pt Bogota), "Badimon" (Canala), "Bernier" (Ni), "Cent Pierres" (Porro), "Beau-deau" (valley of Dothio), "Jeanneny" (Fouuary), "Petites Pierres" (Houailou), "Pierre des Mineurs" (Kouenthio), etc. The chief figures in these rock-carvings are in a sort of relief alternating with the hollowed out motif. The concentric cross, the spiral, the concentric circle, the concentric crescent, the oval (approximate) are the chief ornamentation,—figures of human beings, often with geometric stylizing, abound. Among animals represented are birds, crocodiles, serpents (no land-species exists on the island); plants are less numerous. Figures of weapons, implements, etc., are also found. "Hieratic symbols" (triangles, ladders, concentric squares, rectangles, etc.) and also "alphabetiform" signs (these are discussed on pages 528-529) are likewise represented. The origin of these signs of a "letter" sort needs further investigation.

Quelques sculptures sur pierre d'origine néo-calédonienne. (Ibid., 1909, V^e s. X, 258-260.) Treats of sculptures in relief on stones (the only examples of the sort attributed to the Kanakas of New Caledonia), human face, lizard,—found in the territory of the Gondé tribe in the valley of Huailu. The lizard-sculptures may have something to do with totemism.

Basedow (H.) Der Tasmanierschädel, ein Insulartypus. (Z. f. Ethnol., Berlin, 1910, XLII, 176-227, 16 figs.) Based on study of 126 Australian and

36 Tasmanian skulls in the Museum of the Royal College of Surgeons in London, etc. (measurements, etc., are given). The average capacity of the Australian crania is, male 1287 cc., female 1145; Tasmanian male 1314, female 1156 cc.; the whole range being, Australian 1010-1640 cc., Tasmanian 1060-1465 cc. The average cephalic index of the Australian crania is, male 70.8, female 72.5; Tasmanian male 74.8, female 76.8. The Australian cranium is dolichocephalic, the Tasmanian mesocephalic. The great development of the supraorbital region in the Australian skull is, according to B., rather secondary than primary or atavistic. Hair of the Tasmanian type is not rare among the Australians. B. holds that the Tasmanian was originally a genuine Austral type, and has been insularly modified. The dingo was probably never in Tasmania; its entrance into Australia even may have been subsequent to the separation of Tasmania from the mainland.

Bean (R. B.) Types of Negritos in the Philippine Islands. (Amer. Anthropol., Wash., 1910, N. S., XII, 220-236, 16 figs.)

Biasutti (R.) I Tasmaniani come forma d'isolamento geografico. (A. p. l'Antrop., Firenze, 1910, XI, 108-116, map.) Résumés and criticizes recent studies (Gräbner, Klaatsch, Frobenius, Thomas, Schmidt, Ling Roth, Turner, Basedow, etc.). In essentials of race and culture the Tasmanians represented an older type than the general Australian, a type preserved by geographical isolation. Craniologically and in the form of the hair the Tasmanians differ from the Australians. The distribution-map (p. 113) shows the percentages of skulls broader than high,—greatest (84%) in Tasmania, least (0%) in the north of Australia. The Australians are the more modified and less primitive people.

Bird (W. H.) Some remarks on the grammatical construction of the Chowie language as spoken by the Buccaneer Islanders, North-Western Australia. (Anthropos, St. Gabriel-Mödling, 1910, V, 454-456, map.) Brief notes on pronouns (no gender-distinction), nouns (no special form for plural; adjectives of quality follow), adverbs, verb (verb "to be" regular, but seldom used). These natives have "remarkable initiation and other ceremonies, blood-

drinking customs, and also some interesting legends."

- Blackenhorn (M.)** Vorlage eines fossilen Menschenzahns von der Selenka-Trinil-Expedition auf Java. (Z. f. Ethnol., Berlin, 1910, XLII, 337-354, 5 figs.) Treats of the finding of a lower left molar human tooth from the alluvium of the Sondé, a stream in the Trinil area, its nature and significance, with a report of the investigation of the tooth by Walkhoff, who thinks it may be older than the tooth of Dubois' *Pithecanthropus*. The age of this relic is, however, still doubtful.

- Bolsius (A.)** Une légende alfourie. (Anthropos, St. Gabriel-Mödling, 1909, IV, 879-891.) Gives native text, with translation and notes, of "the tale of Pandagian" in the language of the Alfurus of Minahassa, to which is prefixed a brief grammatical sketch of the Tumbulur dialect. Further details may be found in the author's article "Enige mededeelingen over het Toun-bulu," in *Stud. op Godscl., Wetensch. en Letterk. Geb.*, vol. XI.

- Brown (A. R.)** Puluga: a reply to Father Schmidt. (Man, Lond., 1910, X, 33-37.) B. argues that S. is seeking evidence merely for a pre-formed theory, and points out mistakes due to lack of intimate knowledge of the Andamanese, their language, etc. There is no evidence, according to B., that the Andamanese believed in a Supreme Being. See Schmidt (W.).

- Marriage and descent in North Australia. (Ibid., 55-59, 2 figs.) Treats of the question of the rules of descent in tribes having 8 matrimonial classes (e. g., Arunta and Chingalee). In tribes of the Arunta type the phrases are strictly exogamous with patrilineal descent; the child's class is determined by that of its father; the totem is not acquired by inheritance. In tribes of the Chingalee type the phratry is not strictly exogamous, and the generally patrilineal descent is sometimes irregular; the child's class is determined by that of its mother; the totem of the child is generally inherited from its father, but there are many exceptions.

- Bryant (H. G.)** A traveler's notes on Java. (Nat. Geogr. Mag., Wash., 1910, XXI, 91-111, 17 figs.) Contains items concerning rice-culture, dress of natives and Europeans, Javanese dan-

cers, and *wajang wong*, temple ruins of Brambanan and Boro Boedoe, etc.

- Cole (E. C.)** The Bukidnon of Mindanao. (Amer. Anthropol., Wash., 1910, X, 5, XII, 134-135.)

- Conant (C. E.)** The names of Philippine languages. (Anthropos, St. Gabriel-Mödling, 1909, IV, 1069-1074.) Gives examples of the diversity and uncertainty of usage as to the orthography of some well-known names (e. g., Tagalog, Tagalo, Tagala, Tagal, Tagalan) of Philippine languages in Spanish, English, French, German, etc., and proposes, that, with the exception of *Pampanga*, which represents a native *Kapang-pangan*, "all Philippine languages and dialects be designated by their native names without inflectional endings, and that in their spelling all peculiarities of Spanish orthography be eliminated." A list of 42 such names is given.

- Couteaud (—)** Les origines de l'Île de Pâques. (R. del'Éc. d'Anthr. de Paris, 1910, XX, 86-97, 1 fig.) Discusses the problems connected with Easter id., its inhabitants, gigantic statues, hieroglyphics, etc. One of the names of the island is Rapa-nui, and legends of the island of Rapa, E. of Tahiti and in about the same latitude as Easter id., suggest that Rapa-nui was peopled from Rapa. Dr. C. thinks the Polynesian expansion eastward may have touched S. America. He favors the theory of a submerged continental area in the region of Easter id. The great statues he attributes to the authors of the other megalithic monuments in Oceania.

- Crampton (H. E.)** A fourth journey to the South Seas. (Amer. Museum J., N. Y., 1910, X, 122-132, 8 figs.) Notes on journey of 1909, among the Society, Cook, Tonga, Samoa, Fiji, Hawaiian is., New Zealand, etc. The fishing-parties of the men of Opoa Raiatea (Society is.) are represented in one of the illustrations. C. believes that "precisely similar phenomena are displayed by the various Polynesian island-races and lower forms like the snails," and "subservient, like other living things, to the control of evolution, the natives, as well as the snails, have come to differ more or less widely in correlation with their greater or lesser isolation in geographical respects."

Die heutige Lage der Gilbert-Insulaner. (Globus, Brunschwg., 1910, xcvi, 223-224.) Items concerning the natives of the Gilbert is. (population now reduced to 25,000; houses; food; decline of ancient arts; consumption due to adoption of European dress; quarrels and disputes, etc.) from a recent parliamentary report by A. Mahaffy, Assistant to the West Pacific High Commission.

Eberlein (J.) Die Trommelsprache auf der Gazellenhalbinsel. Neupommern. (Anthropos, St. Gabriel-Mödling, 1910, v, 635-642, 1 pl.) Brief account of the a *garamut* or signal-drum of the natives of the Gazelle peninsula, New Pomerania. Its form, preparation use (*borro*-signals at deaths of important persons, great dances, etc.; *linitiding*-signals on less important occasions; *kulatiding* for calling chiefs), with musical illustrations of signals, etc. (pp. 641-642).

Edge-Partington (J.) Maori forgeries. (Man, Lond., 1910, x, 54-55.) Cites evidence from Prof. Andree (see *Z. f. Ethnol.*, 1907, p. 493) confirming the manufacture of objects of New Zealand jade by the lapidaries of Oberstein and Idar (Germany) and from Mr Hamilton, director of the Dominion Museum, Wellington, N. Z., as to the manufacture of "Maori" bone and wooden relics of various kinds,—indeed "no class of New Zealand 'curios' is exempt from the imitator's art."

Egidi (V. M.) Questioni riguardanti la costituzione fisica dei Kuni, Nuova Guinea Inglese. (Anthropos, St. Gabriel-Mödling, 1910, v, 748-755, 2 pl.) Notes on the physical character of the Kuni of British New Guinea. Stature and physical constitution (rather low statured, av. 1,500 mm., lowest adult measured, 1,450, tallest 1,600 mm.; no well-defined type; male inferior in physical strength to European, but not the women; able to bear hunger and thirst well), acuity of senses (color-sense not much developed; hearing shows education rather than greater acuity *per se*; sense of sight keener than that of Europeans; sensibility to cold marked), diseases and remedies, special abstinences from food, etc. (in preparation for dances, war; special *régime* for both sexes from puberty to the birth

of first child, or till two or three years after marriage; special food-taboos for women), cannibalism (neither indigenous nor ancient; probably introduced through imitation of tribe of Boboi and Kauaká).

Erdland (A.) Die Sternkunde bei den Seefahrern der Marshallinseln. (Ibid., 10-26.) Treats of the star-lore of the sailors among the natives of the Marshall is., its use in sea-faring, etc. At pages 18-20 is given a list of 66 stars and constellations with native names; also (pp. 21-26) explanations of the names of the more important ones, items of mythology, folk-lore, turns of speech, etc. The Polar star is "the good star"; the Southern Cross is the *bub-fish*; the Pleiades are "the double vessel"; the Magellanic clouds are "the star in the sandstone." Many large stars, like Sirius, e. g., have no names.

Forster (B.) Das moderne Australien. (Globus, Brunschwg., 1910, xcvi, 347-349.) Résumés a series of articles by J. F. Fraser in the *Standard* for March, 1910. Features emphasized are the monotony and half-finished aspect of nature, lack of the spirit of enterprise, disinclination of the squatter to turn farmer, Mongolian immigration, etc. The bright side of Australian life is seen in the care for education of children and the provisions for their welfare in other respects.

Foy (W.) Nochmals über den Namen der Insel Celebes. (Anthropos, St. Gabriel-Mödling, 1910, v, 253-254.) Discusses etymologies suggested by Wichmann, Sarasin, etc. The oldest form of the word is *Célebe* (1516), a term applied first to the island group from the southern Philippines to modern Celebes, then to the northern part of this island and finally to the whole of it. The etymology is not known.

Friederici (G.) Anir oder Feni? (Globus, Brunschwg., 1910, xcvi, 50-51.) Argues against the attempt to introduce *Feni*, instead of *Anir* (a native name) as the appellation of an island-group in the east of South New Mecklenburg, as made, e. g., by Dr. O. Schlaginhaufen.

Geurtjens (H.) Le cérémonial des voyages aux Iles Keij. (Anthropos, St. Gabriel-Mödling, 1910, v, 334-358, 1 fig.) Treats in detail of the ceremonies

of the sea-travelers of the Key is. (every native is a seaman). These ceremonies, conducted by the priest, include taking a horoscope; planting of the *belrin* (a slim tree); choosing a house for the rites; watching of sacred fire; singing at night of the *ngel* (laconic songs in obscure style, and not especially appropriate to the occasion; native texts and translations of *ngel*, pp. 339-347); the *Kaifal* or festival of departure (for those leaving only); the embarkation; ceremonies, etc., in the house after the departure of the seamen, and actions of the participants; ceremonies (not numerous) observed by the seamen themselves; return-festival,—the seamen are heroes for several days, but soon everything resumes its common and monotonous character.

Girschner (F.) Zur Sprache von Ponape und der Zentralkarolinen, Südsee. (Ibid., 560-563.) Treats of the origin of the plural-form-*ail* (probably from *ijil*, "three"), suffixing of possessives, possessive genitive, numerals, etc. In a note Father Schmidt points out that Dr G. has here furnished the first positive evidence of the former existence in Ponape of a Papuan language.

Giuffrida-Ruggeri (V.) La posizione antropologica dei Maori. (A. p. l'Antrop., Firenze, 1910, XI, 13-18, 2 pl.) G. R. recognizes in the Maori a characteristic facial type, originating from isolation, and deserving the appellation of "local form" in the sense of the Saracens; a type not found outside of New Zealand,—long-faced, with large chin and lower jaw (dolichocephaloid, rarely pentagonoid). He believes in a primitive type of man, very variable, very plastic, and yet without conspicuous differentiations, as the first stage of the human race, a sort of "prophetic" state, then a stage represented by the Galley Hill man, followed by another stage with numerous protomorphic groups, followed by the divergence of the negroids, then the xanthoderms and leucoderms and the independent formation of numerous local varieties, etc.) Leucoderm tendencies occur in the most disparate regions of the globe (Miaotse in China, certain American Indians, Minahasan of Celebes, etc.) and no chronological succession or synchronism can be maintained. The real explanation lies in the plasticity of the species. Diversities, indeed, are

often quite relative and do not depart far from the fundamental line.

Graebner (F.) Noch einmal P. W. Schmidt und die südostaustralische Kulturgeschichte. (Globus, Brunschwig, 1910, xcvi, 362-366.) Critique and reply to Father Schmidt's effort to prove the non-existence of father-right group-totemism in eastern Victoria; also as to the extent, etc., of sex-totemism, whose culture-relations Dr G. regards as doubtful. G. also objects to Father S.'s assumption of "an unmythological, ethnic monotheism," as the initial and the final stage of human religious development.

Die melanesische Bogenkultur und ihre Verwandten. (Anthropos, St Gabriel-Mödling, 1909, IV, 998-1032, map.) Concluding section. Treats of related culture outside the Pacific Ocean area; S. E. Asia (the cultural analogies with Melanesia are not merely to be found in the East Indian Archipelago, but extend even to Assam), Africa (in S. Africa, the Nile country, and the region of the primitive African forest culture-elements exist that are related to the oldest Pacific-Ocean culture), America (phenomena suggesting the Melanesian "bow-culture" are found over a large portion of Central and Northwestern S. America and Central America: Bororo, Arawaks, Caribs; crooked flat bows, certain sorts of arrows, pile-dwellings, certain sorts of weaving and basketry, forms of paddles, head-trophies, masks, etc.), Europe (pile-dwellings, flat-bow, pottery, etc.), N. E. Asia (along the Pacific coast, in Korea, China, Japan, etc., scattered evidences). Pile-dwellings, skull-cult, "Hocker" figure in art, spiral in ornament, belong in the culture in question.

Grisward (J.) Notes Grammaticales sur la langue des Telef. (Ibid., 1910, v, 82-94, 381-406.) Grammatical sketch (phonetics, noun, adjective, numerals, pronouns, verb,—in detail pp. 381-402, adverb, post-position, conjunction, etc.) of the Telef, a language of the mountainous interior of southern Bougainville, one of the Solomon is. Father Schmidt notes that is "the first grammar published of a Papuan tongue on the island." Relationship-names have special dual and plural forms; numerous classification-numerals exist; the use of the verb *ʔotsi* (do) is interesting; there are some defective verbs.

Groneman (J.) *Der Kris der Javaner*. (Int. Arch. f. Ethnogr., Leiden, 1910, XIX, 91-109, 123-161, 39 figs., 7 pl.) First two sections of a detailed monograph on the Javanese *kris*. The forging of Japanese weapons is treated with particular reference to nomenclature, etc., of metals used, parts of weapons, etc.

Die Heirat eines javanischen Kronprinzen. (Mitt. d. K. K. Geogr. Ges. in Wien, 1910, LIII, 426-460.) Detailed account of the ceremonials and festivities in connection with the marriage in August, 1907, of the present crown-prince of Jogjakarta, based on personal observation of the author and on official documents.

Haddon (A. C.) New Guinea pygmies. (Nature, Lond., 1910, LXXXIII, 433-434.) Résumés evidence as to New Guinea pygmies, said to have been discovered on the Mimika river by the British Ornithologists' expedition. See article on "The Discovery of a Pygmy Race," by W. R. Ogilvie-Grant in *Country Life*, XXVII, 797, and the *London Times* for June 3, 1910.

Herrick (S. B.) A summer festival in Tahiti. (Century, N. Y., 1910, LXXX, 701-708, 18 figs.) Describes the celebration of the French national holiday (July 14). Native music and singing, dancing, "fire-walking," etc.

Hocart (A. M.) A point of Fijian orthography. (Man, Lond., 1910, x, 77-78.) Criticizes official orthography for its rule that "an *i* should be affixed to the word preceding a noun with instrumental and kindred senses." This is "a remarkable piece of blindness, which can only be explained by a mechanical adherence to first impressions, instead of a constant revision of grammatical rules with increasing experience." See Ray (S. H.).

A Tongan cure and Fijian etiquette. (Ibid., 102.) Describes briefly the *fuafua* cure as performed on a little girl, for pain in the ear, by Lolohe, a Tongan woman of Lakemba, in the eastern Fiji group. Soon afterwards the little girl's neck swelled (she had *fula* due to a breach of etiquette) and the young chief had to be called in to cure his sister's disorder.

Lang (A.) Puluga. (Ibid., 51-53.) Reply to Mr A. R. Brown in which L. holds that "Biliker (female) and Puluga (male) are creations of imagination in

search of a first cause," and not "personifications of the N. N. E. Monsoon," as B. contends. See Brown (A. R.), Schmidt (W.).

The "historicity of Arunta traditions." (Ibid., 118-121.) L. thinks these traditions are "not historical, but dictated by the logic of fancy." They are not "historical evidence on any point of prehistoric manners." According to L., the Arunta "have passed out of normal totemism, in which each totem is strictly confined to one phratry only."

The puzzle of Kaiabara class-names. (Ibid., 130-134.) Critique of data in Howitt, etc., concerning the class-names of the Kaiabara tribe of South Queensland. It would seem that Howitt has confused the names of the classes and sub-classes with those of the totems. A few other mistakes are also pointed out.

The Alcheringa and the All Father. (Rev. des Ét. Ethnogr. et Sociol., Paris, 1909, II, 141-154.) Seeks to show from evidence in Spencer and Gillen's *Native Tribes of Central Australia* (1899) and *Northern Tribes of Central Australia* (1904), that "the more animism, the less All-Fatherism"; from these tribes "the All Father has faded from men's interests and knowledge, and in some cases has wholly disappeared, owing to the amazing northern development of animism, the all explaining philosophy (for it is a philosophy) of spirits." According to L., "the sky-dwelling great beings of the center are obsolescent survivals, not primal germs of the South Eastern conceptions of the All Father."

and Schmidt (W.) On the sociological development of the tribes of Australia, etc. (Anthropos, St. Gabriel-Mödling, 1909, IV, 1096-1099.) Critique of Father Schmidt's view as expressed in *Anthropos* with his replies. L. believes that group-marriage did not precede individual marriage; that the change from the female line to the male was not caused by a Papuan invasion, but "is an evolution from within"; that "immense social changes have occurred within Australia"; "local exogamy" occurs as a sequence to totemic exogamy. Father S. differs with L. as to the sociological position of the Kurnai, etc.

Leenhardt (M.) Note sur la fabrication

- des marmites canaques en Nouvelle-Calédonie. (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., x, 268-270, 2 figs.) Describes the making of coiled pottery (spatula used) at Wanass in the valley of the Tinande by a woman of the upper Tipindjé. Among the Kanakas of New Caledonia pottery is an art of women and its manufacture seems confined to the northern half of the island, although by purchase its products are known in all parts.
- Percuteurs et haches de Nouvelle-Calédonie. (Ibid., 270-272, 2 figs.) Brief description of a striker and three stone axes (two showing process of manufacture), from New Caledonia.
- von Leonhardi (M.) Der Mura und die Mura-mura der Dieri. (Anthropos, St. Gabriel-Mödling, 1909, iv, 1065-1068.) Treats of the beliefs, etc., of the Dieri concerning the *Mura* (supreme being, good spirit, creator) and the *Mura-mura* (mythic ancestors). Based on data from the missionary J. G. Reuther. The legends of the various *Mura-mura* are set forth in dramatic songs, *mura-wima*.
- Lobingier (C. S.) The primitive Malay marriage law. (Amer. Anthropol., Wash., 1910, n. s., xii, 250-256.)
- Lewis (R. H.) Asia. Africa. South Sea Islands. (Anthrop. Pap. Amer. Mus. Nat. Hist., N. Y., 1910, iv, 312-329, 3 pl., 14 figs.) Notes on new specimens. Starr's Philippine collection of over 700 items, including Negrito weapons, musical instruments, etc.; Tibetan collection (scrolls, religious objects in particular, prayer-stone); Kavirondo (Bantu) collection (dress, ornaments, weapons, shamanistic objects, musical instruments, etc.); Turkana (Lake Rudolf) head-dress; West Africa (knives, sheaths, pipes, dance-masks of Fan, Ball, and ceremonial paddle from Sierra Leone; Southwest Africa (Ovambo baskets, Herero weapons, ornaments, etc.); Congo (Starr collection, Kasal particularly well represented); Waters collection (over 2000 specimens) distinctively Fijian (and Solomon is.) Maori (carved canoe prow and model of a *pataka* (food store); Schroeder collection (chiefly articles of personal decoration from Micronesia).
- Mannucci (E.) Crani della Malesia. (A. p. l'Antrop., Firenze, 1910, xl, 145-188, 11 figs.) Describes, with measurements and figures "skulls from Malaysia (Moluccas 2, Malay 5, Java 3, Madura 1) and 2 plaster models (Maduran Malay, Javanese), all male, collected by the traveler Beccari. The cephalic index ranges from 75.43 to 87.50, only 4 being below 80. The natives of the Moluccas are racially very heterogeneous. The Malay is generally brachycephalic. The Javanese are also very mixed racially (dolichocephaly 12% as compared with 6% among Malays and 34% in the Moluccas).—brachycephalic 72%. Cranial deformations are considered at pages 175-185 (frontal deformations do not occur).
- Marett (R. R.) Queensland corroboree songs. (Folk-Lore, Lond., 1910, xxi, 86-88.) Gives music and words of 4 songs obtained by Mr R. B. B. Clayton from the Goorang-goorang tribe about 1863-3 (musical notation by Miss I. S. Clayton).
- de Marzan (J.) Quelques espèces de magie fidjienne. (Anthropos, St. Gabriel-Mödling, 1909, iv, 1092.) Notes on rain-stopping (some of the shamans are women), stones to stop rain, to bring on rain, and to obtain winds of a certain sort.
- Mutilatio ethnica in Australia sub-incisio (mika) dicta existitne in insula Fiji? (Ibid., 1910, v, 808-809.) Cites evidence proving the existence in Vita Levu (Fiji is.) of the *mika* operation known from Australia.
- Mathews (R. H.) Die Bundandaba-Zeremonie in Queensland. (Mitt. d. Anthropol. Ges. in Wien, 1910, xl, 44-47.) Describes the *bundandaba*, or final initiation ceremony of the aborigines of the coast region from the border of New South Wales north to about Port Curtis (extending some 150 to 200 miles inland). The tribe is divided into two primary groups, *Deawoi* and *Kap-paian*, and each of these has two subdivisions. The common bat, *deering*, is the friend of all men; a small owl, or night hawk, *booroo-kapkap*, the friend of women. The *bundandaba* begins six months or a year after the *toora* ceremony.
- Meier (J.) Der Glaube an den *inal* und den *idana surakit* bei den Eingeborenen im Küstengebiet der Blanchebucht. (Anthropos, St. Gabriel-Mödling, 1910, v, 95-112, 2 pl.) Treats of the beliefs of the natives of the coast-region of Blanche bay, New Pomerania, con-

cerning the *inal*, a good spirit, bird like in form and living on the giant *giao* or banyan tree (*Ficus prolixa*), and the *tutana vurakit* ("the eternal man"), the latter standing in relation to human beings as wild animals do to tame,—he vegetates simply, having lost the use of reason and speech. Belief in the *tutana vurakit* is connected with the mysteries of the *Iniat* society, whose ceremonies are briefly described. The *tutana vurakit* can change himself into a bird (*Tanyptera nigricaps*), which is eagerly hunted by the natives.

Meyer (O.) Funde prähistorischer Töpferei und Steinmesser auf Vuatom, Bismarck-Archipel. (Ibid., 1909, IV, 1093-1095, 11 figs.) Treats of fragments of prehistoric pottery found on Vuatom, Bismarck Archipelago. See earlier item in *Anthropos*, 1909, IV, 251.

Mythen und Erzählungen von der Insel Vuatom, Bismarck-Archipel, Südsee. (Ibid., 1910, V, 711-733, map.) Besides some notes on the Vuatom dialect, Father M. gives native texts and translations of 10 myths and tales: The fish-catching, The Two (To Kambinani and To Karivuvu) build themselves huts, The Two make the sea, To Karivuvu makes the Island of Vuatom, The head of To Natrangur the orphan, She takes the mango-fruit (sea-cow), Fire (origin of death), Grandmother and granddaughter, The fish-eagle, The *Arum* (*Phalanger orientalis*).

Moszkowski (M.) Beiträge zur Entwicklungsgeschichte des Wohnhauses in Ostsumatra. (A. I. Anthrop., Brunschwg., 1910, N. F. IX, 1-17, 27 figs.) Interesting discussion of the development of the dwelling-house based on the author's observations among the primitive peoples of Eastern Sumatra and the accounts of other investigators,—particularly the house of the Sakai. According to M., the house originated more often as a protection for fire than as a protection for man against inclement weather, etc. The primitive house of the natives of the primitive forest, the round-hut, under the necessity of protecting fire has developed in various ways,—the simple wind-shelter, the platform with wind-shelter, the primitive pile-dwelling, etc., are treated with some detail. M. believes that the dwellings in tree-tops have developed out of the pile-dwellings and

not vice-versa (the tree-Sakai, e. g., although expert climbers and adapted to tree-life use always the ladder to enter their houses,—the ladder that goes with the pile-dwellings). The Sakai houses with fires underneath the floor are characteristic. The walls arise as wind-shields.

Sagen und Fabeln aus Ost- und Zentralsumatra. (Anthropos, St Gabriel-Mödling, 1909, IV, 989-997.) German version of 8 Malayan tales from Eastern and Central Sumatra. Legend of Tungku Malim Dewa (Siegfried-Brünhild cycle), Sultan Yangkut and Sultan Arimau, War between Rokan and Rau; About the night-monkey (telling of origin of use of powdered *Kokang*-bones as medicine), The tale of Dantor (the rhinoceros-bird), About the death-birds (ravens, owls, *puntianak*), About the *Orang-Bunien* (dwarfs), About the *Orang-gelang* (giants). Some native words of songs, etc., *passim*.

Müller (W.) Über die Wildenstämme der Insel Formosa. (Z. f. Ethnol., Berlin, 1910, XLII, 228-241.) Treats of the wild tribes of Formosa; Numbers (ca. 120,000), tribal-groups (Ataiyal, Vonum, Tso'o, Tearisen, Pailwan, Pyuma, Amis, Pepo, Yami), psychical characters (brachycephalic 79-83; middle-sized), language (all Malayan; at pp. 238-239 the numerals 1-10 in all Formosa dialects), political relations, family and domestic relations (strict monogamy generally), birth and death, dwellings (not built close together), dress and ornament, tattooing (general with many tribes), food, tobacco (not much cultivated; great smokers, men, women and children), betel-chewing common, weapons (firearms obtained from Chinese; spears chiefly in Central and S. Formosa; bow and arrow,—in N. used only for birds; swords of all forms and sizes), musical instruments (Jew's-harp played by boys and girls; bamboo-flute of men), agriculture, money (*bintuan*), art and industry (weaving and wood-carving somewhat developed), fire (flint, friction, boring), law and punishment, religion and superstition (soul-lore; spirits, exorcism, festivals for ancestors' spirits), head-hunt (widespread and deep-rooted).

Neuhaus (R.) Brief aus Neu-Guinea. (Ibid., 1909, XLI, 962-963.) Letter of Sept. 1, 1909, from Sisserau, describing

- voyages up the Markham river (to a place where the natives had never before met a white man), on the Augusta, etc. In the Kai country traces of a "prehistoric" people were found. The pottery and wood-carving of some of the Augusta river tribes are remarkable. N. thinks that the native population of New Guinea has been much underestimated. Collections of more than 1,550 objects (Kai, Bakaua, Sissanu, etc.), 52 skulls (14 from Augusta river), 700 developed negatives, 43 cinematograph films, 90 phonograph records (60 songs with texts and translations), etc., were made.
- Nollen (H.)** Les différentes classes d'âge dans la société Kaia-Kaia. (Anthropos, St Gabriel-Mödling, 1909, IV, 553-573, 11 pl.) Well-illustrated account of the age-classes in the Kaia-Kaia society (passage from stage to stage is the occasion of festivals and dances) of Merauke, Dutch New Guinea, with description of dress, ornaments, etc., distinguishing each class. The men's classes are: *Patur* (boy), *aroi-patur* (boys of pubertal age), *wokravid* (well-developed boys), *ewati* (youth and time of wife-choosing), *miakim* (fiancé condition), *amnaugib* (married man), *mezmiakim* (old man). The women's: *kivazum* (little girl), *wuhuku* (girl of 10 to 11 years), *Kivazum-iwag* (corresponds to the male *ewati*), *iwag* (marriageable girl; most of these are betrothed or promised), *saf* (married woman), *mes-iwag* (old woman; the very old are called *sombanum*). The head-dresses differ according to the parts of the country.
- Paulinus (P.)** Laute mit Kehlkopfverschluss und Palatale in der Yap-Sprache. (Ibid., 1910, V, 809-810.) Notes on *f*, *p*, *t*, *k*, *l*, *m*, *n* and a genuine palatal *ç* in the Yap language of the Carolines.
- Ray (S. H.)** Note on a point in Fijian orthography. (Man, Lond., 1910, X, 104.) Notes that as long ago as 1885 Rev. S. H. Codrington pointed out the absurdity of using the instrumental prefix *i* in Fiji as a suffix to the preceding word. See Hocart (A. M.).
- Reche (O.)** Eine Bereisung des Kaiserin-Augusta-Flusses, Neuguinea. (Globus, Braunschwg., 1910, xcvi, 285-286, map.) Brief account of journey up the Empress Augusta River in 1909. Three culture groups at least were noted,—

the sago-swamp culture of the mouth of the river (identical with that of lower Ramu); a pile-dwelling culture, poorer in content; a third culture centering on the upper part of the river, with well-developed art and industry. Anthropologically also three types are to be distinguished, of which two are long and one short headed.

- Reiter (F.)** Les "Kopftrophäen" aux Iles de Tonga. (Anthropos, St Gabriel-Mödling, 1910, V, 254-256.) Cites evidence that the custom of presenting the heads or the entire bodies of people killed in war, to chiefs, idols, or gods, was in vogue in Tonga,—the Tongan language has a special name for it, *fakaulu*.
- Rice (A. P.)** Cannibalism in Polynesia. (Amer. Antiq., Salem, Mass., 1910, xxxii, 77-84.) Treats of cannibalism in Fiji (religious; but revenge is main cause; one "jolly chap, very hospitable to strangers," boasts of eating 900 human beings), Tonga (no fixed hold on people), Melanesia (eating old relatives, bodies of enemies killed in battle, etc.), Marquesas (fond of human flesh; women relished as tid-bits), Samoa (human flesh not so much relished as in Fiji; bodies of those slain in war eaten), New Zealand (only in Taupo were women and girls permitted to eat human flesh; ceremonial eating of the heart), etc.
- Rivers (W. H. R.)** The father's sister in Oceania. (Folk-Lore, Lond., 1910, xxi, 42-59.) Treats of relation of man to father's sister on the island of Pentacost or Raga in the New Hebrides (father's sister chooses wife for nephew; he obeys aunt generally, and all his possessions are at her command; helps her in garden-work, etc.; aunt and nephew may eat together, but he may not say her name; *kurina*, special term for husband of father's sister), Banks' is. (of all relatives father's sister is most highly honored; names "queen" and "mother," etc., applied to her; her personal name never used in speech; community of goods to a certain extent between a man and his father's sister; ceremonial functions in connection with pregnancy and childbirth in which father's sister figures for wife and offspring of nephew, share in ceremony of boy's entrance into a certain rank of the *suge* or men's club; relation between man and husband of

his father's sister, *poroporo* or "chaffing"), etc. The resemblances of these customs to those concerning a man and his maternal uncle are close, but they may be explained on the ground that the father's sister is a member of the opposite *veve* or social division of the community.

Schlaginhaufen (O.) Zur geographischen Nomenklatur im Rismarckarchipel. (Glohus, Brunschwg., 1910, xcvi, 241-242.) In reply to Dr G. Friederici (q. v.), Dr S. holds that "*Fini* is the real aboriginal name used by the natives" of the islands in question.

Schmidt (W.) Die soziologischen Verhältnisse der südostaustralischen Stämme. (Ibid., 157-166, 173-176, 186-189.) Treats of the sociological relations of the aborigines of southeastern Australia—tribes without marriage-totemism, tribes with marriage-totemism, the significance of sex-totemism, mythology and religion, with special consideration of the views of Howitt and Graebner, and a critique of the latter. Father S. protests against the positing of marriage-totemism as the ever-present oldest stage *per se*. Real marriage-totemism exists in some southeastern Australian tribes, but in origin and character it may be different from that of the western and northern tribes. He holds that sex-totemism has nothing to do with marriage-regulations, but has for its object the expression of a certain equalizing of the two sexes in symbolical fashion. The idea of the highest being is connected neither with the totemistic solar mythology, nor with the lunar mythology of the two-class culture. Such traces of it as occur in southeastern Australia must have been already present in the older "Nigritic" culture.

— **Puluga**, the supreme being of the Andamanese. (Man, Lond., 1910, x, 2-7.) Replies to Mr A. R. Brown's "attack on Puluga." Father S. holds that Puluga originally had nothing to do with lunar mythology (being without wife and children, and therefore all the more "a true supreme being"), although his wife has accrued to him from that source. In the mythology and religion of the Austronesian peoples Father S. finds "an intimate connection between the spider, the plaiting and spinning women and the waning moon."

— **Nochmals: Puluga**, das höchste Wesen der Andamanesen. (Ibid., 66-71, 82-86.) Reply to A. R. Brown (q. v.) on the nature of "Puluga, the Supreme Being of the Andaman Islanders," with answers to points raised by him. See Lang (A.).

— **Grundlinien einer Vergleichung der Religionen und Mythologien der Austronesischen Völker.** (Denkschr. d. K. Akad. d. Wiss. in Wien, Phil.-hist. Kl., 1910, LIII, viii, 1-142, 1 pl.) Outlines of a comparative study of the religions and mythologies of the Austronesian (Indonesian-Melanesian-Polynesian) peoples. The Bornean Dyaks, the Bataks of Sumatra, the Macassars, Bugis, Toradjas and Alfuros of Celebes, the natives of the island of Nias, the Malagasy of Madagascar, the natives of the smaller eastern and southeastern Indonesian islands, the Polynesians and Melanesians (Admiralty is., Gazelle peninsula in New Pomerania, New Mecklenburg, Solomon is., Banks is., New Hebrides, Gilbert is., Marshall is., etc.) are considered with respect to the idea of a Supreme Being and his characteristics, part in creation, etc., myths of creation and origin, sun and moon, earth and sky and their rôles in mythology, etc. Father S. holds that solar mythology is later than lunar; the first has often very skillfully made use of certain earlier things connected with the latter. Austronesian solar mythology knows sexual reproduction, Austronesian lunar mythology does not. Solar mythology was originally foreign to the purely Austronesian lands, its real territory being at the same time of the region of languages and tribes radically different from the Austronesian, e. g., Papuan. The phallic magic-rites in the Austronesian region follow and do not precede the solar mythology. Solar mythology is a deep and materially interested seeking after the causes of the fertility of the earth and an endeavor in some way or other to influence it. Animism is later than reverence for great deities, later than lunar mythology. Solar mythology and lunar mythology were preceded by the idea of a "supreme being," with certain high, even ethical qualities. See also Father S.'s "Die Mythologie der austronesischen Völker" in *Mit. d. Anthr. Ges. in Wien*, 1909, XXXIX, 240-259.

Seligmann (C. G.) A classification of the natives of British New Guinea. (J. Roy. Anth. Inst., Lond., 1909, XXXIX, 314-333, 10 pl., 1 fig.) Treats briefly of following ethnic groups of the western Papuo-Melanesians: *Lakwaha* (Motu, Koita, Lakwaha, Ikoro, Gaboni, Sinangolo, Kabadi, etc.), *Keapara* (from Hood peninsula to the Aroma villages; taller and more brachycephalic than their eastern neighbors), *Keweri* (shorter, darker, and more long-headed than Keapara; little known of tribes between Aroma and Mullins Harbor), *Maitu* (around Pt. Glasgow and Milport Harbor; Massim influence in pottery, tattoo patterns, etc.), *Roro* (Marilau, Roro, Paitana, Waima, Bereina, Kevori, about mouth of St. Joseph river; cultural differences from eastern coastal neighbors), *Mekeo* (on St. Joseph river above Roro; two important tribes, Biota and Vee; Mekeo men distinctly brachycephalic), *Pokao* (in Nara region; many individuals with curly, wavy, or almost straight hair; many women have unusually light skins), *Koiari* (in Motu hinterland; tribes are Gasiri, Sogeri, Uberi, Ebe, Agi, Meroka; mesocephalic), *Kage* (in higher mountains behind Koiari zone; more Melanesian than Papuan blood), *Garia* (E. of the Koiari; two dialects, Garia and Manukoro), *Korio* (Kuni, Mafulu, Kambisi, etc.; no other Melanesian language spoken as far inland as the Kuni). At p. 331 are a few notes on the Agaiambo of the Barigi hinterland, who speak a Papuan language but are not Papuans. Dr. S. observes (p. 332) that he has seen oblique eyes among the Koita, Motu, Pokao, and at Hula; Capt. Barton has noticed them at Aroma and O. C. Stone among the Koiari.

Siebert (O.) Sagen und Sitten der Dieri und Nachbarstämme in Zentral-Australien. (Globus, Brnschw., 1910, XCVII, 44-50, 53-59, 9 figs.) Gives German versions of 12 brief legends (also native texts of Nos. 4 and 7) of the Dieri and other Central Australian tribes.—sun and moon myths, origin of marriage, circumcision, etc. Also notes on ideas about storms (lightning = rain-penis); *pintara*, *mâduka* and *mâdu*; *ngambu* (plant totem); *wôkadarâ* (sacred stones); birth and childhood; counting; cooking; medicine; musical instruments (*wima-koko*, a

wooden trumpet used in ceremonies such as circumcision, etc.; striking together of boomerangs, clubs, etc.); expeditions for ochre and *pitcheri*; visit of strangers; vengeance-expedition or *pinja*; "bone-giving" (sorcery); *kûnhi* (shaman); sorcery of various sorts; ideas about the soul, spirit, etc.; death and burial customs; the *mûlunga*-dance, brought to the Dieri only in 1901 it has since gone further south to the Wirangu tribe, north of Port Augusta (photographs made by the author are the basis of the illustrations given of this dance, the migration of which from the extreme north has been treated of by W. Roth). The *mûlunga* dance has a cohabitation postlude.

Speiser (F.) Beiträge zur Ethnographie der Orang Mamma auf Sumatra auf Grund der Sammlung G. Schneider im ethnologischen Museum zu Basel. (A. f. Anthrop., Brnschw., 1910, N. F. IX, 75-89, 29 figs.) Ethnological notes (based on the collections of G. Schneider 1897-1899) on the Orang Mamma (so termed from their *matriarchy*) of Indragiri, Sumatra. Habitat, settlements (3 or 4 huts, with 30-40 people), houses (on piles in forest; not particularly primitive and probably a rather late acquisition; little furniture; lamp of Malay origin, spoons possibly also, clothing and ornament (little variety and ornament), mutilations, etc. (upper incisors filed down at puberty, teeth blackened, no tattooing or scarifying), betel-chewing and tobacco-smoking (cigarettes), hunting and fishing (women take part in latter), implements, weapons, etc. (snares; spears, harpoon with release; fish-traps; fish-poisoning; knives; bow and arrow unknown) domestic animals (fowl, dog, cat, and often goat; no systematic breeding, food ("anything"; no traces of totemism here), fire-making (bow-string apparatus), rice-cultivation (both sexes take part; several implements of Malay origin), gathering of *garu*-wood, resin caoutchouc, wild honey and wax, rotang, etc. (traded off to the Malays for salt, cotton, iron, tobacco, etc.), manufactures (sieves, baskets, grass-bags, etc., rotang-strips), musical instruments (bamboo flute), wood-carving (knives, spoons, sticks of a decorative sort), weaving and pottery (unknown), songs and dances, games and play (no data), family and tribal

organization (most matriarchal of all Sumatran peoples; divided into *sukas*, within which marriages cannot take place), marriage (monogamy and no divorces); adultery (unknown), diseases and medicine (shamanic dances), "spirit-boat" (due to Malays), dance and drum ceremonies, shamans (not invariably men), burial, etc. In many things the Orang Mamma are not higher than the Kubu; from the Malays they have evidently borrowed much. In height they range from 1570 to 1640 mm. (women 1480 mm.). These aborigines probably belong somewhere between the Veddas and the Malays.

— Pfeife von Santa Cruz. (Ibid., 1909, N. F., VIII, 308-311, 17 figs.) Treats of the collection of arrows from the Santa Cruz Is., in the Berlin Ethnological Museum,—parts, points (fine bone-pointed more common, long bone-pointed less so), ornamentation, etc. Dr S. thinks that the Santa Cruz arrows represent an earlier higher form of arrows.

V. den Steinen (K.) Neuseeländisches Heitiki und Nephritbeil. (Ibid., 1910, N. F., IX, 43-49, 8 figs.) Treats of *heitiki*, mis-called "idols," of the Maori and the nephrite axes, etc. The *heitiki* is of stereotyped appearance and does not vary greatly in size, and, according to Dr V. d. S., "is nothing else than a figuratively sculptured edge of an axe." The *heitiki*, like all other Maori things, is no free sculptural product, but a purely decorative object. We have here a notable example of the development of a carved ornamental attachment out of the simple tool-ornament. The child-ornaments of axes among the Xingü Indians of Central Brazil may be cited in parallel here.

Thurnwald (R.) Die eingeborenen Arbeits-Kräfte im Südseeschutzgebiet. (Kolon. Rundschau, Berlin, 1910, 607-632, 10 figs.) Treats of the working capacities of the native peoples of the German colonies, etc., in the South Pacific Ocean: Melanesians of Bismarck Archipelago, Solomon Is., and German New Guinea (pp. 609-629), Micronesians of the Carolines, Polynesians of Samoa, etc. The Micronesians and Polynesians (in intelligence nearest to the Malays) are the least useful as laborers; the less intelligent and less cultured Melanesians are far more suited for physical labor in the

plantations, etc., but they are very diverse with regard to intelligence and productive capacity. Attention must be paid to the native's conception of working when he feels like it, then resting or amusing himself. He is not lazy; he is "active," but his "activity" is not the "work" imposed upon him by the European. Some accommodation or compromise between these two ideas has been suggested as a solution of the labor-problem. The call for Melanesian laborers has already led to decrease in population (e. g. in Neu-Mecklenburg). This may ultimately lead to dependence upon imported Chinese, Malays, etc. The *mélissage* of whites and Micronesians and Polynesians seems more hopeful than that between whites and Melanesians. The ideal is a symbiosis which will utilize the capacities of all races in the best way.

— Ermittlungen über Eingeborenenrechte der Südsee. (Z. d. vergl. Rechtswiss., Stuttgart, 1910, XXIII, 309-364.) A valuable monograph on the laws (national, government, intertribal, etc.; family and personal; property; punishment; legal processes, etc.) of the Melanesian aborigines of the district of Buin, south of Māri mountains on the island of Bougainville, between the Äku river and Lahäl lake. Their culture is relatively higher than that of the neighboring mountain tribes. Characteristic of the Buin are the *äns* (or ceremonial pledging of allegiances between vassals and chiefs); the *abäcko* (or "chiefs' houses") with their *bolibai* or particular spirit; feasting after battle; totemism; naïve ideas (p. 330) as to origin of children; mixture of age-classes and descent in relationship-terms (list of these pp. 330-334); monogamy common; chastity of wives more esteemed than that of girls before marriage; complicated weddings lasting several days; children independent at an early age (corporal punishment rare); infanticide and suicide rare; complicated ceremony of name-giving; dead cremated; real adoption not in vogue, but temporary exchanges of children frequent; slavery proper not present, only vassalage; soil property of district and not alienable, and usually not taken away after battle, taxes based on labor, not on land; in movable objects, there is rather personal than individual property,—tools,

implements, weapons, ornaments, money, e. g., are made by one's own labor for one's own use; no markets; shell currency (table of values of *abuta*, pp. 353-356); practically only three crimes, homicide and murder, adultery and sorcery; blood-revenge almost only retaliatory process; theft unimportant; abortion common; legal processes proper hardly exist.

Im Bismarckarchipel und auf den Salomonen 1906-1909. (Z. f. Ethnol., Berlin, 1910, XLII, 98-147, 20 figs., 3 maps.) Treats chiefly of the aborigines of Buin, anthropology and culture. The upper social section of the Buin consists of a Solomon is. type, the lower strata of a type related to the mountain-tribes of Bougainville. The Mono represent the first type (dolichocephalic), the Baining of the Gazelle peninsula (Neu-Pommern), perhaps better than the Buin lower class, the mountaineer-type (brachycephalic). The non-Melanesian language spoken in Buin is closely related to that of the mountain tribes (in the mountains of the Admiralty Is., also a non-Melanesian language is spoken). Pages 113-147 contain notes on villages and houses (sleeping-houses, work-houses; temporary shelters of leaves, branches, etc.), economics (basal food *taro*; also yams, bananas, etc.); hunting proper unknown (only snares and pits, as for men); technique and labor (sex division); trade and exchange; currency; women and marriage (festal prostitution in vogue); children (weaned by third year; adoptive education); totemism (animals not ancestors); political institutions; blood-revenge; weapons, war, etc.; cult of the dead (realm of dead in north; cremation); religion (spirits of dead chief factor); forest-spirits; celestial spirits (sun, moon, Venus, etc.); ornamental motifs derived from these; sorcery and love-charms; the *ingniel*-society of the Gazelle peninsula; songs (German text of love and mourning songs, pp. 137-139); music; psychological observation (concrete method of thinking; great variations in ability to use numerals; people age rapidly; improvidence; laziness only relative; knowledge of nature very imperfect; faculty of abstraction largely lacking; great variations in intelligence, character, etc., among individuals).

Vormann (F.) Zur Psychologie. Reli-

gion, Soziologie und Geschichte der Monumbo-Papua, Deutsch-Neuguinea. (Anthropos, St. Gabriel-Möding, 1910, v, 407-418). Notes on the psychology (strongly-built, proud, rule of strongest, good-humored, presence of Semitic types, well-clothed children, agriculture, hunting and fishing, food generally boiled or roasted, blood-revenge, no head-hunting), religion and ethics (no Supreme Being, no moral good and evil; land of spirits, death no real complete separation from world of living; great fear of sorcery and magic; taboos of sex, etc.), sociology (marriages arranged by parents, etc.; monogamy the rule, principal men take another wife; adoption much in vogue; children follow relation-groups of father; inheritance of property; no political organization), mythology and history (origin-legend, etc.).

Woodford (C. M.) The canoes of the British Solomon Islands. (J. Roy. Anthr. Inst., Lond., 1909, XXXIX, 506-516, 1 fig., 7 pl.) Describes canoes of Shortland Id., Ysabel Id. (Bugotu), Malarta Id., with native names of parts; and (pp. 511-513), description of a *tomako* or head-hunting canoe of New Georgia, with list of native names of parts in the language of New Georgia Main Id., and the language of Gore-gore or Vekavekala.

Note on a stone-headed mace from Rennell Island. (Man, Lond., 1910, x, 121-122, 1 fig.) The basaltic stone head is in form of an eight-pointed star; the handle is of hard, dark wood, the lashings of rattan.

Wulff (K.) Indonesische Studien. I. Beiträge zur Stammbildungslehre der indonesischen Sprachen. (Anthropos, St. Gabriel-Möding, 1910, v, 219-236, 457-472.) Dr K., from the examination of numerous words in the various Indonesian languages (but Batak and Karo especially), concludes that "composition of two synonymous, or almost synonymous, root-words has been, from primitive Indonesian times, one of the most notable factors in the morphology of these languages, and a feature sharply distinguishing them from the related tongues of Farther India."

AMERICA

A Laguna folk-tale. (So. Wkman., Hampton, Va., 1910, XXXIX, 618-619.)

Legend of "the seven sisters,"—seven black, ragged, and peculiar looking rocks, near the Pueblo of Laguna in New Mexico. They were seven ugly young women who ill-treated their beautiful younger sister; a sort of Cinderella-tale.

- Ambrosetti** (J. B.) Un documento gráfico de etnografía Peruana de la época colonial. (Fac. de Filos. y Letras, Publ. de la Sección Antrop., Nr. 8, Buenos Aires, 1910, 1-25, 11 figs.) Treats in detail of a painting (in possession of the author), more than two centuries old and surviving all sorts of vicissitudes, representing the miracle said to have been performed by the Virgin Mary during the memorable siege of Cuzco by the Inca Manco in the revolution of 1535-1536. In the picture are figured Cuzco and the fort of Sacsalluamán, Indian warriors, weapons (bow and arrow, lance, shield, sling, partizans or axes), banners, drums, etc. Dr A. compares the data in the picture with the accounts and representations elsewhere of Peruvian dress, ornament, weapons, etc. The picture was painted by Indians, possibly those employed by Don Francisco de Toledo, ca. 1600 A. D. It was intended for the Capilla del Triunfo at Cuzco.

- Ameghino** (F.) Sur l'orientation de la calotte du *Diprotomomys*. (An. d. Mus. Nac. de Buenos Aires, 1910, xx, 319-327.) Replies to the critiques of his description of the crania of the *Diprotomomys* which maintained that certain peculiarities attributed to it were due to incorrect position when observed and that the skull, after all, was that of a low variety of man. A. argues that these peculiarities (glabellar projection, etc.) are real and mark off the skull in question as a distinct species, not *Homo*, and farther removed than the anthropoids, etc., from the latter.

- Montañola anthropomorpha un género de monos hoy extinguido de la Isla de Cuba. Nota preliminar. (Ibid., 317-318.) Brief account of 6 teeth, discovered in the cave of S. Espíritu in Cuba, where had been previously found the jaw of the *Homo Cubanensis*. These Dr A. determines to belong to an extinct species of American monkey (no monkeys exist in the island of Cuba), to which he attaches the name of *Montañola* in honor of the

discoverer Dr Luis Montañé. Certain resemblances in the crowns of the molars, etc., to the anthropomorphic apes and man justify the qualification *anthropomorpha*.

- Andrus** (C. A.) Vacation days among Hampton Indians. (So. Wknn., Hampton, Va., 1910, xxxix, 145-150, 6 figs.) Brief account of visits to the Lower Brulé, Crow Creek, Yankton, Santee, Omaha, Oneida, and Winnebago reservations (over 200 Hampton Indians were seen in 3 months). Life seems much easier among the Omahas and Winnebagoes than among the Sioux. The very good houses of the Indians surprise one.

- The Indian convocation at Medicine Creek. (Ibid., 273-276, 4 figs.) Treats of the Convocation of the Episcopal Church (Indian) of South Dakota at Medicine Creek on the Lower Brulé Reservation, in July, 1909. The district includes 91 congregations, with 6 white and 14 Indian clergymen and over 80 catechists and helpers, mostly native.

- van Antwerp** (A. L.) The aqueducts of the city of Mexico. (Rec. of Past, Wash., 1910, ix, 16-22, 3 figs.) Notes on the old aqueduct on the Calzada de Chapultepec (a waterway dating from before the Conquest), the fountains at Chapultepec, El Salto del Agua, etc., and the Spanish inscriptions connected therewith.

- San Hipólito. (Ibid., 89-94, 2 figs.) Treats of the church of San Hipólito, Mexico, and the monument marking the scene of Cortés's battle with the Aztecs. The legend (from Fr. Diego de Duran) serving as the basis for the carving of the eagle with an Indian in his claws is given on pp. 93-94.

- Ashmead** (A. S.) Some observations on certain pathological questions concerning the mutilations represented on the anthropomorphic huacos pottery of Old Peru. (N. Y. Med. J., 1909, 857-861, 4 figs.) According to Dr A., *ata*, as a disease, is not responsible for all the amputation of feet shown on the huacos pottery.—"It made no difference to the artists whether the diseased conditions, which had frequently required amputation during life for cure was *ata*, or syphilis, or both together, or another disease; they sculptured a picture of misery, a condition of

physical distress, expressing it in their clay." Reproductions from photographs of five living cases of *uta* are given. Citations are also made from Dr J. C. Tello, author of *La antigüedad de la Sifilis en el Perú*. Dr M. O. Tamayo, author of *La uta en el Perú*, etc. There is no doubt of armless *huacor*, but there is yet doubt of actual surgical amputation in ancient Peru. See Lehmann (W.)

- Barrett (S. A.)** The material culture of the Klamath Lake and Modoc Indians of northeastern California and southern Oregon. (Univ. of Calif. Publ. in Amer. Arch. & Ethnol., Berkeley, 1910, v, 239-292, 16 pl.) Treats of territory and environment, buildings (semi-subterranean earth-lodge, summer-house, sweat-house of two sorts), implements of war (bow and arrow and javelin), hunting implements (bow and arrow; moose-snare; bird-net), fishing implements (dug-out canoe, dip-net, string gill-net, hook and line, fish-spears of 3 kinds), stone implements (two-horned muller, looped muller, etc.; small mortars and pestles, maul, arrow-straightener, obsidian and flint arrow-heads, spear-points, etc., stone pipes of several forms), games (many for both adult and young,—these have been treated by Dorsey and Culin), basketry (soft and pliable, stiff and rigid, first largely predominating), fire-making (usual drill; sage-brush bark torch), miscellaneous (deformation of head in childhood; porcupine-tail hair-brush; special bone implement for separating inner from outer bark of pine). The Klamath and Modoc people "possess a specialized culture due largely to the extensive use of *uta* in the making of houses, basketry and various utensils." They stand by themselves also with respect to stone objects, implements for use on the water, their characteristic foods, etc.

- Bateman (L. C.)** The Passamaquoddy Indians of Maine. (So. Wknn., Hampton, Va., 1910, xxxix, 17-27, 3 fgs.) Treats of history, population (about 500 at Pleasant Pt near Eastport and on the regular reservation at Dana's Pt in Princeton), political organization ("old party" and "no party," the latter more radical and stronger), marriage, death, language (only English taught in schools; use Indian among themselves, three re-

spected authorities (parish priest, Indian Agent, Sisters of Mercy who teach the children), state aid (\$10,000 a year), Indians of ability (Gov. Tomah Joe), legends (tale of Glooscap; tale of twins; a tale of war with the Mohawks), etc.

- Bauer (L. A.)** The most curious craft afloat. (Nat. Geogr. Mag., Wash., 1910, XXI, 223-245, 30 fgs.) Some of the illustrations (Guatemalan bread-oven, wooden plow, Greenland natives, etc.) are of ethnologic interest.
- Berry (R. M. F.)** The American gipsy. (Century, N. Y., 1910, LXXX, 614-623, 8 fgs.) Notes on language (*Kalo jib*), "patteran" (tracing footsteps or wagon-tracks, etc.), methods of travel, cooking conveniences and cleanliness (modern cook-stoves; although tripod and kettle have not altogether disappeared), methods of domestic work, traits and habits (shrewd money-makers), fortune-telling or "dukking," devotion to family life (the really predominant trait), division into families, respect for age, gipsy queens, gipsy wives and mothers, religious faith (little outward part; *buro-duvel* and *tickno-duvel*). Real American Romany is well-off.
- Beuchat (H.) et Rivet (P.)** La famille linguistique Zaparo. (J. de la Soc. d. Américanistes de Paris, 1908, N. S., v, 235-248.) Treats of the Zaparan linguistic stock of Ecuador. List of tribes (some 40), vocabulary (pp. 241-245), grammatical notes (pp. 245-247) and texts (Sign of the Cross, Pater Noster, Ave Maria, and Credo) in the Iquito dialect, with translation. The best known of these Indians are the Zaparo proper; some are almost entirely unknown linguistically. The Iquito is represented here by the religious texts reprinted from Gonzalez Suarez.
- La langue Jibaro ou Siwora. (Anthropos, St Gabriel-Mödling, 1909, IV, 1053-1064.) Continuation of monograph on the Jivaro language. Grammatical and lexicological affinities (loan words from other tongues; affinities with Arawak dialects, particularly the Campa; possessive pronouns); texts (pp. 1059-1064); Pater Noster, Ave Maria, Commandments, part of Christian Doctrine, etc., in Gualaquiza and Macas, with interlinear translation. For comparison the Pater Noster in Jébero (Mainan) is given. The authors are of opinion that the Jibaro

- belongs to the Arawakan stock; but, to the reviewer, this is not yet proved.
- Biasutti (R.)** Contributi all'antropologia e all'autopogeografia delle popolazioni del Pacifico settentrionale. (A. p. l'Antrop., Firenze, 1910, XL, 51-96, 23 figs.) Based on study of Californian and Haida crania in the National Anthropological Museum in Florence, and crania of Haida, Tsimshian, Kolusches, Aleuts, Eskimo, Chukchee and Giliaks in the Museum of Natural History at Paris, with references to the literature developed by Boas and the Jesup North-Pacific expedition; cranio-logical details, measurements (pp. 88-94) of 2 Eskimo, 4 Haida, 8 Californian skulls, and comparisons with other races. In California, according to Prof. B., we "are fully in the territory of the *Homo Americanus*," with the absence of Mongolian traits. The "Paleoasiatics," Eskimo, Aleuts, and partly also the coast peoples (Tlinkit, etc.) down to California are, as Boas observes, typically "fringe peoples." The Ainu are "antecedent to the invasion of the *facies mongolica*." No direct relations of the American type with Oceanic or European races can be established; secondary intrusions of Mongolian character seems demonstrated. The American aborigines proper "are derived from an amonolic Asiatic type, which passed into the New World in some interglacial epoch."
- Blackham (R. J.)** Cheese: its position in history, commerce and dietetics. (J. Sanit. Inst., Lond., 1910, XXXI, 440-450.) Contains some interesting facts regarding the antiquity of cheese and its varieties.
- Blackiston (A. H.)** Archeological investigation in Honduras. (Rec. of Past. Wash., 1910, IX, 195-201, 12 figs.) Briefly describes author's investigations of the mortuary mounds near San Pedro Sula and the Playas de los Muertos, in the valley of the river Chamelecon, on which are also located the ruins of the ancient city of Naco, the remains discovered, etc.—the Blackiston collection is now in the U. S. National Museum.
- Bolton (R. P.)** The Indians of Washington Heights. (Anthrop. Pap. Amer. Mus. Nat. Hist., N. Y. 1909, III, 75-109, 5 pl., 6 figs.) Historical notes, aboriginal remains (shell-heaps, dog-burials, human burials, cave at Cold Spring, stone implements, pottery, including jar of Iroquois pattern, human skeletons, etc.), relations with the first settlers, the town of New Haerlem and the passing of the red man. The remains in question belong to the Wick-quas-keek (corrupted into "Wickers Creek") Indians of the Mohican section of the eastern Algonkians.
- Breton (A.)** Seventeenth International Congress of Americanists. Buenos Aires, May 16th to 24th, 1910. (Man, Lond., 1910, X, 141-144.) Gives brief résumés of most important papers, notes on other proceedings, etc.
- von Buchwald (O.)** Zur Völkerkunde Südamerikas. II. (Globus, Brnschw., 1910, XCIII, 74-75.) Treats of the culture-history, etc., of Peru and the N. W. Coast of S. America (older on the coast and in the mountains, later at L. Titicaca; Ica culture resembles that of Tiahuanaco). Von B. sees Asiatic influences in Peru. Discusses distribution of words for "water (rain)." The whole coast from southern Colombia to the desert of Atacama "was possessed by related peoples, with somewhat uniform culture."
- Bushnell (D. I., Jr)** The bows and arrows of the Arawak in 1903. (Man, Lond., 1910, X, 22-24, 9 figs.) Reproduces, from a Ms., dated 9 May, 1803, descriptions and drawings of 9 arrows (3 for war; 1 to walk with; 2 for birds; 1 for wild hogs; 1 for fish; 1 for all quadrupeds, and their "Arowaak" names, with notes on the use of the bow and arrow. These arrows are said to be from 5½ to 6 ft. long. The Ms. belonged to Hon. J. H. H. Holmes, who in the early part of the last century was a court officer of Demerara and Essequibo; they are now in Virginia, where Mr B. had access to them.
- Capitan (L.)** Le xv^e Congrès International des Américanistes, Vienne, Septembre 1908. (J. de la Soc. d. Américanistes de Paris, 1908, N. S., V, 221-234.) Brief account of proceedings with notes on principal papers and discussions.
- Les sacrifices humains et l'anthropologie rituelle dans l'Amérique ancienne. (R. de l'Éc. d'Anthr. de Paris, 1910, XX, 170-179, 15 figs.) Treats of human sacrifice and ritual cannibalism in prehistoric America, particularly as represented in the ancient Mexican

manuscripts. According to Dr C., for the ancient Mexicans the victim often represented the god and sacrifice meant closer union with him, while his flesh and blood became those of the divine being. This fact removes some of the horrible character attached to these practices by the old chroniclers.

Chamberlain (A. F.) Note sur l'association des idées chez un peuple primitif: les Kitiona de la Colombie Britannique. (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., x, 132-134.) Cites 17 association-groups of words in the language of the Kutenai Indians (birch-bark, onion; wild-cherry, plum, etc.; ear of corn, pine-cone; ear of corn, lupine; rose-hip, apple, etc.; shot, peas; juniper-berries, pepper; elk, horse; grouse, turkey; mud, flour; ice, glass; fog, frost; cloud; dust, smoke, steam; cradle, hobble, coral; sun, clock, watch; salt, vinegar; water, whisky).

— Note sur l'influence exercée sur les indiens Kitiona par les missionnaires catholiques. (R. d. Ét. Ethnogr. et Sociol., Paris, 1909, II, 155-158, 1 pl.) Treats of modification of pagan institutions and ceremonies (e. g. great hunting dance at Christmas times) of Kutenai Indians by the Catholic missionaries; word for "God," etc.; the phraseology of the "Lord's Prayer" (terms for "Our Father," "heaven," "will," "hallowed," etc.); names of the days of the week; influence on art (Shaman; "shaman of whites,"—figure of Christ).

— Noun composition in the Kootenay language. (Anthropos, St Gabriel-Mödling, 1910, v, 787-790.) Cites numerous examples under 9 headings.

Chervin (A.) Anthropologie bolivienne. (Bull. Soc. d'Anthr. de Paris, 1909, v^e s., x, 128-132.) Résumés briefly the *Anthropologie bolivienne* (Paris, 1908, 3 vols.) of the author, containing the results (ethnological and demographical, anthropometrical and craniological) of the Mission Française en Amérique du Sud." Metric photography was employed on a large scale.

Clark (H. W.) The tale of Tshishat. (Pacif. Mo., Portland, 1910, xxiv, 525-530, 9 figs.) Treats of Tshishat (1833-1908), hereditary chief of the Makahs of Cape Flattery and his troubles with the whites. In 1881 he was made captain of police for his people. He

was finally deposed in favor of a younger man.

Davis (J. B.) Some Cherokee stories. (Ann. Arch. & Anthropol., Univ. of Liverpool, 1910, III, 26-49.) English texts of myths and legends (the author is a Cherokee of Chelsea, Okla.): How the world was made, How they got fire, Why the moon's face is dirty, How they tried to kill the sun, The pleiades, The race between the terrapin and the rabbit, Why the turkey carries a scalp, How the partridge got his whistle, How the rabbit killed Flint, Why the Terrapin's back is patched, Why the woodpecker's head is red, Why the opossum's tail is bare, The first ball game, Why some animals can see at night, The origin of the bears, The race between the crane and the humming-bird, Why the mole has to hide, Why the pheasant drums, The first quarrel, How sin came, How disease started.

Die Choctaw-Indianer am See Pontchartrín. (Globus, Brunschwg., 1910, xcvi, 349-351.) Résumés data in D. I. Bushnell, Jr.'s *The Choctaw of Bayou LaComb, St Tammany Parish, Louisiana* (Bull. 48 Bur. Amer. Ethnol. Wash., 1909).

Dieseldorff (E. P.) Über Klassifizierung meiner archäologischen Funde im nördlichen Guatemala. (Z. f. Ethnol., Berlin, 1909, xli, 862-873, 6 figs.) Notes on rude, inartistic vessels, idols, etc., found in caves or deep beneath the surface, belonging to the prehistoric inhabitants (probably of Mayan stock); objects from the Lacandon Indians (pottery, sacrificial vessels, etc.), objects from the Kekchi Indians (idols, hollow with hole for producing sounds; pottery, fine enameled vessels, etc.); objects from the Chols or Acalás (idols, heads, etc.), objects of similar kinds from the Pokomchi Indians, etc. D. considers it incorrect to suppose that, because the modern Lacandons carry out certain ceremonies at the temple of Menché-Tenamit, their ancestors built it. The primitive home of the Lacandons is the forest-region west of Usumasintla. The finds at Chamá are probably Kekchi. The finds from Alta Vera Paz resemble the most of all the Maya Codices.

Die südamerikanische Amazonasage. (Globus, Brunschwg., 1910, xcvi, 351-352.) Résumés the article of R. Lasch

- on "The South American Amazon Legend" in the *Mit. d. K. K. geograph. Ges. in Wien*, 1910, LIII, 278-289. See Lasch (R.).
- Dixon (R. B.)** Shasta myths. (J. Amer. Folk-Lore, Boston, 1910, XXIII, 8-37.)
- The Chimariko Indians and Language. (Univ. of Calif. Publ. in Amer. Arch. & Ethnol., Berkeley, 1910, V, 293-380.) Treats of culture (pp. 295-306) and language (307-380). Territory and history (population never more than some hundred), material culture (dress, bodily decoration and ornament, ear-piercing, tattooing; food, roasting and boiling; houses of old type now disappeared; weapons; canoes; pipes; flutes; nets; twined basketry), social organization (only social units were village communities, no clans; monogamy general; puberty ceremonies simple; inhumation; "grass-game," cup-and-ball game, cat's cradle, etc.), religion (shamans of both sexes, instructed in dreams; dance of shaman neophyte, puberty dance, and simple sweat-dance for men only; "round dance" in summer) and mythology (dog chief figure in creation with coyote; fire-myth, animal-stealers), etc. The cultural affinities of the Chimariko are closest perhaps with the Shastan stock. Besides a grammatical sketch this monograph contains (pp. 339-361) the native texts of 6 myths and legends (the Sorcerer, The flood, The unsuccessful hunter, The theft of fire, etc.), with interlinear and free translations, explanatory notes, etc.; and also an English-Chimariko (pp. 363-370) and Chimariko-English (pp. 370-379) vocabulary, two columns to the page, together with some sentences, place-names (pp. 379-380), etc. On pages 337-338 is a list of lexical resemblances between Chimariko and languages of the Shastan families, which together with "the considerable degree of similarity in grammatical and phonetic character between the Chimariko and the Shastan families," are of interest in connection with cultural *sappprochement*. According to Dr D., there is a possibility of real relationship between these two stocks.
- Dominian (L.)** The pyramids of San Juan Teotihuacan. (Rec. of Past, Wash., 1910, IX, 267-275, 7 figs.) Describes "Pyramid of Sun" and "Pyramid of Moon," smaller mounds, remains of dwellings; obsidian knives, etc. The "giants" are also discussed.
- Dunlop (—)** Instruments en pierre de Texas. (Bull. Soc. d'Anthr. de Paris, 1909, V^e S., X, 56-57.) Notes on some hematite implements and sea-shells found together at Eagle Food, Texas, and sent to the Anthropological Society of Paris.
- Eberhardt (C. C.)** Indians of Peru. (Smithson. Misc. Coll., Quart. Iss., Wash., 1909, V, 181-194, 2 pl.) Gives list of tribes with estimated population, and notes on Huitotos, Campas, Aguarunas, Huichipalria, Inji-inji (lowest of Peruvian Indians; on Curaray R.), Nahumedes (tradition says they are the Indians who gave rise to the story of the "Amazons" or women warriors), Orejones. Also notes on the tribes as a whole: Form of government, languages (many independent stocks), houses, food, physical characters (dark tribes of Putumayo probably have strains of negro blood from runaway slaves; light Huarayos of Madre de Dios possibly some Spanish blood), mental traits (as a rule quick to adopt customs of whites), polygamy common, diseases (smallpox, beri-beri, etc.), medicines ("wonderful knowledge of value of herbs, plants, roots," etc., a myth), cannibalism (still practiced by some tribes of Putumayo), slavery (exists in Peru, but Indian slaves not harshly treated). Information in this article is from a consular report of 1907 by the author to the Department of State at Washington, and is largely derived from Mr G. M. von Hassel, "probably one of the best authorities on the subject."
- Sound-signalling by Indians of tropical South America. (Ibid., 269-271, 1 fig.) Brief account of the contrivance (suspended "male" and "female" logs hollowed by burning, which are beaten by stick with rubber head) found among several tribes of the Amazonian region in Peru-Brazil, known to the Uitotos as *manguari*, and by other tribes as *kudra*, *tundoy*, etc.
- "Eine anthropologische Entdeckung von fundamentalster Wichtigkeit."** (Globus Brnschw., 1910, XCVII, 336-337.) Note on the investigations of Dr F. Boas as to the changes in skull-form, etc., of immigrants and the children of such, as revealed in the publication of the Immigration Commission re-

- cently issued by the Government at Washington, *Changes in Bodily Form of Descendants of Immigrants* (1910).
- Etienne (J.)** Les Boruns. (Anthropos, St. Gabriel-Mödling, 1909, IV, 942-944.) Notes on habitat (between Rio Mucury, Rio Jequitinhonha and the Serra dos Aymorés), physical characters (old Indian claiming to be 108 years), customs (house and contents; ear-ornaments of women), language (list of 27 words, pp. 943-944, obtained at Olivença), of the extinct Boruns. The speech is plainly Tupian.
- Farabee (W. C.)** Some customs of the Macheyengas. (Proc. Amer. Antiq. Soc., Worcester, N.S. XX, 127-131.) Treats of attitude toward the dead (no fear; body handled with impunity and disposed of without ceremony), "burial" (body carried on litter from house and thrown into swift river, no ceremony at house or at river; some Indians of the tribe bury with no ceremonies, marking of grave or grave-gifts the bodies of those killed in warfare; some again bury small children among the rocks on the hills), house where death has occurred (if small child had died there, house is still used, but if other member of family, it is abandoned and new one built at some distance; this is done, not from fear of the dead but from fear of the disease that killed him), soul-lore (according to tradition, souls of Macheyengas enter the red deer; the flesh of this animal they never eat, but do not object to others so doing, and will even kill it and cook the flesh for them; the soul is neither the deer, nor the soul of the deer, "it is the end of it when it enters the deer"; they distinguish between the soul and life; the soul "has nothing to do with life, sleep, disease or death"), religion and mythology ("big man in the sky"; creator, but has little to do except to thunder and send rain; attitude towards him of Indians is one of indifference, as is his towards them). These Arawakan Indians of Eastern Peru "make no offerings nor prayers and have no ceremonies, no feasts, no sacred dances, no ceremonial objects, no charms, no fetishes." This paper is valuable for the psychology of primitive man.
- Fewkes (J. W.)** Cremation in Cliff-dwellings. (Rec. of Past, Wash., 1910, IX, 154-156, 2 figs.) Cites evidences of the cremation of human bodies (bone ashes, smoke-blackened roof, absence of human bones, relatively small number of human burials, etc.) in refuse heaps of caves, on the mesas, etc., indicating a wide distribution of this custom among both the prehistoric and historic peoples of Arizona and the Cliff-dwellers of the Mesa Verde.
- Prehistoric ruins of the Gila valley. (Smithson. Misc. Coll., Quart. Iss., Wash., 1909, v, 403-436, 5 pl., 10 figs.) Treats of the Middle Gila valley compounds (ruins near Florence, Escalante ruin, Tcurik Vaaki, ruins near Casa Grande, near Blackwater, Santan ruins, Snake and Sweet Water Ruins, Casa Blanca and Gila Crossing ruins), Santa Cruz river compounds (ruins near Tucson, Chakayuma, Aquituno, Quitoc, ruins near Qwahadt), Salt River compounds: Ruins near Phenix (Patrick compound, Kalfus and Heard mounds), Tempe ruins (great Tempe mound, Carroll compound), Mesa City ruins (Stewart compound, Los Muertos, Draine's compound), Ruins on the San Pedro (ruins opposite old Ft. Grant, opposite Monmouth, Seven Mile ruin, ruin near Clark's Ranch, Fifteen Mile ruin, etc.). According to Dr F. "these settlements were built by the ancestors of the present house-building Indians of the Southwest"; and "the abandonment of the custom of building Casas Grandes dates back to prehistoric times, and none of the great buildings in the Gila valley were constructed subsequent to the arrival of the Spaniards" (p. 435). The war between the nomads and the house-builders of the Gila had practically ceased before the Spanish advent. The overthrowers of the Casas Grandes were not the Apaches, but rather people from the west, from the Gulf of California. The Pimas and Papagos represent the mixed blood of conquerors and conquered. The circular houses may have been introduced by the prehistoric hostiles from the west.
- Finch (J. K.)** Aboriginal remains on Manhattan Island. (Anthrop. Pap. Amer. Mus. Nat. Hist., N. Y., 1909, III, 63-73.) Notes on archeological sites (Ft. Washington Pt., The Knoll, Cold Spring, Inwood Station, Harlem

Ship Canal, Harlem River, Isham's Garden, Academy Street Garden, Dog burials found in 1895, Shell pockets at 211th St., etc.), chiefly shell-deposits, —the only Indian remains now left are at Inwood and Cold Spring. Mr Calver's discoveries since 1886 are described and some historical references added. The Indians known as Manhattans (their territory includes Manhattan Island and that part of the mainland which is west of the Bronx River north of Yonkers) were a sub-tribe of the Wappinger division of the Mohicans. See Bolton (R. P.), Skinner (A.)

Goddard (P. E.) Apache tribes of the Southwest. (So. Wkmm., Hampton, Va., 1910, XXXIX, 481-485, 6 fgs.) Notes on the Jicarilla, Mescalero, etc. Houses, food-gathering, hunting, ceremonies (annual feast of the Jicarilla resembles, and may be copied from, the well-known yearly feast at Taos). The Apache believe that "the present age is one in which the gods are against them," and they have sought to establish a new moon cult in lieu of the old sun religion; but after 6 years have given up the attempt.

— Navajo blankets. (Amer. Museum J., N. Y., 1910, x, 201-211, 12 fgs.) Treats of the beginnings of Navajo weaving, method of weaving, colors of blankets, designs, kinds of blankets, recent acquisitions of the museum (some 42 specimens). The most valuable blankets are those containing *dayeta*, which have not been made since about 1875. The designs are partly taken over from basketry, partly influenced from Pueblo and Spanish sources, partly the result of "a natural growth coordinate with the development of Navajo weaving." In recent years aniline dyes have superseded native ones. Blanket-making is now the chief art of the Navajo.

— Kato texts. (Univ. of Calif. Publ. in Amer. Arch. & Ethnol., Berkeley, 1909, v, 65-238, 1 pl.) Gives native texts, with interlinear and free translations, explanatory notes, etc., of 37 myths, legends, and tales of the Kato Indians of the Athapascan stock, Mendocino county, California (1-9 myths of origin, 10-24 tales of animals, 25-37 tales of the supernatural). The language is "unmixed Athapascan, distinct to a considerable degree from

Wallaki." The myths and tales also show considerable difference from those of the Wallaki. Pomo influence in folklore and culture is traceable. The coyote is a prominent figure. Other figures are: Wolf, yellow-hammer, skunk, elk, gray-squirrel, grizzly, doe, turtle, gopher, meadow-lark, goose, serpent, rattlesnake, milk-snake, water-panther, "man eater," kangaroo-rat, etc. In the creation-myths Nagaitcho and Thunder are prominent. The processes of creation, transforming, and "becoming" in these myths are particularly interesting from a psychological point of view. In one myth a "supernatural child" figures.

Greene (J.) Indian traditions. (So. Wkmm., Hampton, Va., 1909, XXXVIII, 691-692; 1910, XXXIX, 38-39.) Brief creation legend (Good ruler made man and fish; evil one made snake and monkey); marriage customs; idea of end of world; example of Indian humor; animal stories (why horse and dog cannot speak, but are friends of man); happy hunting-grounds. Author is a Seneca graduate of Hampton Institute.

Grinnell (G. B.) Coup and scalp among the Plains Indians. (Amer. Anthropol., Wash., 1910, N. S., XII, 296-310).

Hamy (E. T.) La corbeille de Joseph Dombey. (J. de la Soc. d. Amer. de Paris, 1908, N. S. v. 157-161, 1 fg.) Treats of a willow basket, now in the Trocadero Museum belonging to the American collection of J. Dombey, but evidently not native to the regions explored by him (Peru, Chili, Brazil). Form, texture, ornamentation, etc., suggest the Northwest Pacific Coast region as the place of origin (perhaps some part of California). To the shell disks with which this basket is ornamented feathers seem once to have been attached. Dr H. sees in the resemblances between *ars plumaria* of the Hawaiians and the Indians of California proofs of Polynesian origins of some Indian tribes.

Hardenburg (W. E.) The Indians of the Putumayo, Upper Amazon. (Man. Lond., 1910, x, 134-138.) Treats of the Huitotos: Tribal organization (sub-tribes independent with own chief; vary in number from 25 to 500 or more individuals), language ("a simple dialect, with but little grammar"), physical characters (small but well-formed and strong; epilation; men toe outward,

women inward; flexible big toe); mutilations (perforation of septum of nose, ear-lobe, etc.), character (humble and hospitable, except the "wild ones"), marriage (few formalities; women naturally chaste), child-birth, naming (name of dead passed on to another), burial under floor of hut (new one then built), tobacco-drinking ceremony, houses (several families in each usually, each one having own place, utensils, etc.), hammocks, weapons (blow-gun and *curete*-tipped arrows; light spear with poisoned tip; *macana*) fishing (nets, spears, hooks); *manguari* or "wireless telegraphy," dress, food, and drink (preparation from *yuca* and *aguaje* pulp), use of *coca*; dances (rare; paint themselves all over), religion (worship sun and moon; *usihamu*, a sort of superior being).

Harrington (J. P.) Notes on the Piro language. (*Amer. Anthropol.*, Wash., 1909, N. S., XI, 563-594.)

— An introductory paper on the Tiwa language, dialect of Taos, New Mexico. (*Ibid.*, 1910, N. S., XII, 11-48.)

— On phonetic and lexic resemblances between Kiowan and Tanoan. (*Ibid.*, 119-123.)

— On the etymology of Guayabe. (*Ibid.*, 344.)

— "Butterfly" in Southwestern languages. (*Ibid.*, 344-345.)

Harrington (M. R.) The last of the Iroquois potters. (*N. Y. State Mus. Bull.* 133, Fifth Rep. Dir., 1908, Albany, 1909, 222-227, 10 pl.) Gives results of investigation in July, 1908, of pottery-making (jar, pot, bowl) among the eastern Cherokee of North Carolina,—half the specimens obtained were the product of one old woman, who with one other, still knew and practiced the art. The Cherokee pottery of today resembles the Iroquoian type, but "the ancient pottery of the Cherokee embraced forms still more like the Iroquois styles than are those of modern make." The carved decorating paddle became obsolete among the Iroquois at an early date. A few years will see the last of the Iroquoian potters.

— The rock-shelters of Armonk, New York. (*Anthropol. Pap. Amer. Mus. Nat. Hist.*, N. Y., 1909, III, 123-138, 3 pl., 7 figs.) Notes on Finch's Rock House, the largest and most important (pp. 125-127), Nebo Rocks,

Hellicker's Cave, Leather Man's Shelter, Little Hellicker's, Mahoney shelter, Quartz Quarry Rock-Shelter, Riverville Shelter, etc., and remains found, giving results of investigations of 1900-1901, etc. In some of the caves evidence of European contact was common. In "Finch's Rock House" a potteryless people first used the cave; then, after a period of non-use came Indians with pottery of the Iroquoian type chiefly; the last Indians represented were Algonkins (Siwanoy or Tankitekes) who saw the coming of the white man. See Schrabisch (M.).

— Ancient shell-heaps near New York City. (*Ibid.*, 167-179, 3 figs.) Notes on shell-heaps and remains found in them at Tottenville (Staten I.), Cold Spring, Pelham Bay Park, near near Westchester, Port Washington, L. I., Oyster Bay, etc.).

Harsha (W. J.) The sense of humor among Indians. (*So. Wkml.*, Hampton, Va., 1910, XXXIX, 504-505.) Cites numerous examples from Omaha, Arapaho, Apache, Kiowa, Comanche Indians. The Indian's reputation for gravity has led to a general mistaken impression that he lacks a sense of humor, but those who meet him or who know him well are fully aware that, in the privacy of the *tipi*, or around an evening camp-fire, or out on a companionable hunt; he can be "full of simple pleasantries that are of the essence of humor."

Haynes (H. W.) Discovery of an Indian shell-heap on Boston Common. (*Rec. of Past. Wash.*, 1910, IX, 79.) Note on discovery during the autumn and winter of 1909 of traces of an Indian shell-heap (soil blackened from decay of animal substances, broken and black-stained shells of the soft clam, etc.), in one of the trenches excavated for irrigation purposes. No flints or implements of stone or bone occurred, but "a smooth, thin, flat pebble, marked with deeply incised cuts," possibly a game-marker, was found.

Hervé (G.) Remarques sur un Crâne de l'Île aux Chiens décrit par Winslow, 1722. (*R. de l'Éc. d'Anthr. de Paris*, 1910, XX, 52-59, 5 figs.) Treats of the skull of an American Indian from Île aux Chiens, an islet near Saint-Pierre in the French possessions w. of Newfoundland, and briefly described in the *Mém. de l'Acad. Roy. d. Sciences*

- for 1722 by the celebrated anatomist J. B. Winslow. According to H., this skull (the body to which it was attached, when found in 1721, was "still clothed") is not Eskimo, or Beothuk, but Micmac. It is very dolichocephalic, with very prominent zygomatic regions.
- Hewett (E. L.)** The excavations at El Rito de los Frijoles in 1909. (Amer. Anthropol., Wash., 1909, N. S., XI, 651-672, 13 figs.)
- Hilliard (J. N.)** Sitting Bull's capture and the Messiah Craze. (So. Wkmm., Hampton, Va., 1910, XXXIX, 345-351.) Treats of the arrest and death of Sitting Bull. In the "messiah craze," Sitting Bull saw his chance for revenge on the white man, and he was one of the first to accept the doctrine of "the Red Messiah."
- Hodge (F. W.)** The Jumano Indians. (Proc. Amer. Antiq. Soc., Worcester, 1910, N. S., XX, 249-268.) Cites historical, ethnological, etc., evidence that the *Jumano* Indians (the "Cow Indians" of Cabeza de Vaca, in 1535), known also as Patarabueyes, "Rayados," etc., of Chihuahua, New Mexico, Texas, and, subsequently, Kansas, were the *Tawshash*, "the name of a division of the Wichita, also the term by which other Caddoan tribes knew the Wichita proper." This identification of the "Jumanos" with the Wichita "accounts for the disappearance of a tribe that has long been an enigma to ethnologists and historians."
- Holand (H. R.)** Are there English words on the Kensington rune-stone? (Rec. of Past. Wash., 1910, IX, 240-245.) Shows that *from*, *of*, *vest*, *illy*, *daedh*, *man* may be good Scandinavian. See Upham (W.).
- Holmes (W. H.)** Some problems of the American race. (Amer. Anthropol., Wash., 1910, N. S., XII, 149-182, 15 figs.)
- van Hynning (T.)** The Boone mound. (Rec. of Past. Wash., 1910, IX, 157-162, 4 figs.) Treats of the Boone mound in Boone co., Iowa, practically void of the usual artefacts (except a few stone implements, numerous fragments of pottery and many shells of *Unionidae*), but said to be unique in possessing a stone floor. Scattered over the floor were many human bones, including one entire skull and parts of four others. On top of the floor were logs against which on the outside were stone slabs forming an enclosure.
- Ignace (E.)** Les Indiens Capiekran. (Anthropos, St. Gabriel-Mödling, 1910, V, 473-482.) Notes on habitat (upper Maranhão near the Serra dos Canelas), physical characters, manners and customs (*cosi* or ear-plug; *toto* or village-chief; marriage-festival; drum and *maraca*), religion (Catholic with many remains of heathenism), language (list of 36 words, p. 479), classification and comparison with other tribes (table, p. 480), history, etc. The Capiekran belong with the Timbiras or Gês (Tapuyan stock).
- Indian workers and leaders.** (So. Wkmm., Hampton, Va., 1910, XXXIX, 277-279, 2 figs.) Notes on Indian delegates to Washington (Dept. of Interior) from Standing Rock and Cheyenne River reservations re cession and opening of Indian lands.
- Jackson (J.)** The upward march of the Indian. (Ibid., 242-245.) Notes results of Indian education since the first bringing of Indians to Hampton Institute in 1878.
- Jones (S. B.)** Indian Warner, a Carib Chief. (Ibid., 555-558.) Gives story of "Indian Warner," half-blood son of Sir Thomas Warner, a colonist of some note, Governor of St. Kitts, who after the Carib massacre of 1629, took one of the women who were parceled out among the whites. He was ultimately killed by the Caribs at the instigation of the English.
- Kessler (D. E.)** The outpost mission of Santa Isabel. (Ibid., 31-32.) Notes on the past and present condition of the Santa Isabel Mission, one of the oldest in southern California. Its first *padre* was Father Craegorio.
- El Capitan Blanco—the White Chief of the Mesa Grande. (Ibid., 1909, XXXVIII, 655-671, 5 figs.) Treats of Edward Davis, adopted by these mission Indians of California and their hereditary chief Mata Whur or Cinon Duro, the keeper of their sacred traditions. Brief account of the adoption-ceremonies.
- Kinnaman (J. O.)** Chippewa legends. (Amer. Antiq., Salem, Mass., 1910, XXXII, 96-102.) English texts only of three legends of the Lake Superior Ojibwa: "The Phantom Canoe (the story of the wife of Weetshahstysy Aptaapee)," "The White Stone Canoe," and "Wawabezowin" (a sort of Undine myth).

Koch-Grünberg (T.) Die Chipaya und Curuhé. Pará, Brasilien. (Z. f. Ethnol., Berlin, 1910, XLII, 609-611.) Introductory historical ethnographical remarks to the article of E. Snethlage (q. v.) on the Chipaya and Curuhé, two Tupian tribes of the Iriri-Curuhé region of Pará. The Chipaya is close to the Yurúna language.

Kroeber (A. L.) Noun composition in American languages. (Anthropos, St Gabriel-Mödling, 1910, v, 204-218.) According to Dr K., "of 30 North American families in which the order of composition has been established, 22 place the determining noun differently from the determining verbal or adjectival stem, 8 treat them alike; 29 American families place the determining noun first, 6 place it second; 13 place the determining verb or adjective first, 21 place it second." Illustrations from numerous languages are given. The Indo-European order of composition is followed by the Algonkian, Uto-Aztecan, Kootenay, and some small families in N. California and Oregon (here the determining element, irrespective of its part of speech, precedes the determined noun): in the Maya-Tsimshian type the noun follows; the most common method, especially north of Mexico, is where the noun precedes. The Yokuts "lacks composition nearly as thoroughly as Eskimo," but for quite a different reason. Iroquoian, according to Mr Hewitt, "cannot combine two noun-stems into one word." Eskimo "is a purely derivative language." Shoshonean "employs derivation much more freely than composition." There is evidence that "adjacent languages of unrelated origin and diverse vocabulary have influenced each other in their methods of structure." See Chamberlain (A. F.).

—The Chumash and Costanoan languages. (Univ. of Calif. Publ. in Amer. Archeol. & Ethnol., Berkeley, 1910, IX, 237-271.) Treats of the dialects and territory, phonetics, grammar, etc., of these two Californian linguistic stocks. The Costanoan language has 7 known dialects, in two groups, northern (San Francisco, San José, Santa Clara, Santa Cruz), and southern (San Juan Bautista, Soledad, and Monterey); a comparative vocabulary of these dialects is given on pages 243-249. Besides versions of the Lord's

Prayer, the text of a Monterey legend of the origin of the world, with interlinear translation, etc., and a few brief songs are given (pp. 253-260). Of the Chumash comparative vocabularies of 5 dialects belonging to 3 groups are given (pp. 265-268), with text of the Lord's Prayer and two brief songs. In spite of marked lexical divergencies the Chumash dialects are comparatively uniform in grammar. On pages 259-263, with a comparative word-list, Dr K. discusses the possible relationship of Costanoan and Miwok, based on lexical and grammatical resemblances, and suggests that if such a relationship be ultimately determined the name Miwok be applied to the resulting larger family of speech. The Miwok of the interior represents perhaps "a more primitive stage of synthetic structure, which has already largely broken down in the coast Miwok dialects and has been replaced by an almost entirely analytic one in Costanoan."

Lasch (R.) Zur südamerikanischen Amazonensage. (Mitt. d. K. K. Geogr. Ges. in Wien, 1910, 278-289.) Brief, well-documented study of South American "Amazon myths," from the report of Orellana in 1541 down to recent attempts at interpretation. Among the tribes credited with "Amazons" are: Natives on the Amazon (named from this) near Trombetas, Indians beyond the Xarayes and Urtueses of Bolivia, Indians east of the Tapacuras, Indians of the Icamíaba mountains at the source of the Nhamundá. The Trombetas region seems specially favored in the earlier reports. The myth itself is widespread over northern S. America; it occurred also in the Antilles and in C. America, in isolated fashion. L. thinks that "the legend of the Amazons is neither a historical nor a new culture-myth, but a mythical story invented to explain social arrangements." It represents the primary economic separation of the sexes and is also only "a somewhat idealized picture of this division of primitive society." It is also an attempt to justify the male-association against the aspirations of the women. L. agrees with Ehrenreich in assigning to this legend an origin among the northern Caribs,—the mythopoetic dis-

position being very marked in the Cariban stock.

- Latham (R. E.)** Ethnology of the Araucanos. (J. Roy. Anthr. Inst., Lond., 1909, XXXIX, 334-376, 2 pl.) Treats of clothing (anciently skins only; spinning and weaving, making "bark" cloth learned from Calchaquis), ornaments (not much given to personal adornment; women's ear-rings, bracelets, pendants, collars, head-bands, etc.; no face-painting nor tattooing now), habitations (primitively *tolde* or skin tent, now wattle and daub huts at first circular, then oval, finally rectangular) and furniture, weaving, skins, pottery (generally made by women; coarse variety for domestic purpose, finer in burial-places), fire (now by matches or with flint and steel; friction method occasionally; no special rites), food (various tubers, fruits, berries, *pisón*, flesh and fowl; maize and beans introduced by Incas; cooking done by women; horse-flesh favorite meat; meals generally at mid-day and sundown; now greatly addicted to drunkenness), agriculture (due to Incas; desultory and primitive even now; irrigation in north adopted from Incas), religion (great admixture of Christian beliefs and customs; rude form of nature-worship; chief deities evil genii to be propitiated; *Pillan*, the thunder-god, now almost entirely replaced by *Ngunc mapun*, lord of the earth; moon the only beneficent deity; no hell; Mocha id., starting-place for other world), superstitions (omens, dreams), magic and witchcraft (sorcerers, diviners, exorcists), morals, laws and customs, relationship (list of terms (pp. 357-358), marriage customs (polygamy general, limited by wealth), child-birth, totemism (not now in vogue, but author sees traces in children's names), cannibalism (no case known for nearly a century; only prisoners of war were eaten), war, burials, ceremonies (detailed account of ceremonies of *machi* or medicine-man at house of chief supposed to be poisoned, pp. 365-369).

- Laval (R. A.)** Del latín en el Folk-lore chileno. (An. de la Univ., Santiago de Chile, 1910, CXXV, 931-953.) Cites numerous phrases, expressions, refrains, verses, anecdotes, etc., in Chilean folk-use, containing Latin words and sentences (Latin is no longer a com-

pulsory subject). Curious is the proverb, *Beati indiani qui manducant charquiconem*. Macaronic Latin verses in imitation of liturgical phrase, also occur, with other joco-serious "poems" in which Latin words are included.

— Cuentos chilenos de nunca acabar (Ibid., 955-996.) Cites 26 examples of "endless tales."

- Léden (C.)** Kurzer Bericht über meine Grönlandreise 1909. (Globus, Brunschwg., 1910, XCVII, 197-202, 6 fgs.) Contains notes on Eskimo of Umanatsiak, Umanak, North Star Bay, etc. According to the author, "the Christian Eskimo of Danish Greenland seemed like withering leaves as compared with the heathen Eskimo of Cape York." The "only place, perhaps, in Danish Greenland, where the Eskimo have preserved their culture is Umanatsiak." From Umanatsiak came four singers of the old native songs and the author was able to obtain a number of good phonographic records. A few songs were also obtained elsewhere; observations of dances, etc., were made. In Jacobshavn the Eskimo sang banal religious verses, learned from the missionaries.

- Lehmann (W.)** Syphilis und Uta in Peru. (Globus, Brunschwg., 1910, XCVIII, 12-13.) Résumés the data in J. C. Tello's *La antigüedad de la Sífilis en el Perú* (Lima, 1909) and R. Palma's *La Uta del Perú* (Lima, 1908) concerning the alleged existence of syphilis in prehistoric Peru, etc., which question is not settled by these works. *Uta*, may be another disease, leprosy of some sort, and not syphilis.—*Uta* is popularly thought to be carried by a fly or a mosquito. Syphilis-infection of the llama from man has not been substantiated. Tello thinks that the representations on Peruvian pottery refer to syphilis rather than to *Uta*. See Ashmead (A. S.)

- Lehmann-Nitsche (R.)** Dibujos primitivos. (Univ. Nac. de la Plata, Extens. Univ., Confer. de 1907 y 1908, La Plata, 1909, 111-132, 49 fgs.) Treats of drawings of children of the white race (Argentinian boys and girls) and of adults of primitive races, especially American Indians.—Guatú, Bakairí, Calingá, Fuegian, Baniva, Bororó, Ipuriná, etc. (Schmidt, v. d. Steinen, Koch, Ambrosetti, etc. The rarity of trees and plants is noted. Dr L.-N. sees

parallelism of ideas and artistic development in the child and the uncivilized races.

Lenders Indian collection. (Amer. Museum J., N. Y., 1910, x, 92-95.) Brief account of collection made by Mr E. W. Lenders, a noted artist of Philadelphia and bought for the Museum by Mr J. P. Morgan. Represented are the Sioux (costumes especially), Cheyenne, Arapaho, Blackfeet ("medicine man's" costume and paraphernalia, etc.), Crow, Nez Percé, Plains Cree, Apache, Comanche and Kiowa (dress, etc.), Shoshone; also by art-work, weapons, etc., articles of painted buffalo hide. Plains Indians, Indians of the North Pacific Coast, the Southwest and the Eastern Woodlands.

Levi (E.) Albinismo parziale ereditario-familiare in Negri della Louisiana. (A. p. l'Antrop., Firenze, 1909, xxxix, 5-13, 1 pl.) Treats of hereditary partial albinism involving 14 members of one family-stock (genealogical tree, p. 9) of Louisianian negroes (resident about a century in that State). From a normal negro father and his wife (affected partially with albinism) have descended 15 children of whom 8 are partial albinos, and 5 grandchildren, all partial albinos. Of the normal children 3 are male; of the partial albinos 3. The third generation consists of 4 females and 1 male. Attenuation of the phenomenon with successive generations is shown. In none of these cases was the eye affected.

Lewis (L. M.) Sunlight legend of the Warmspring Indians. (So. Wkmn., Hampton, Va., 1909, xxxviii, 685-686.) Poem. Tells how Ah-ah, the crow, got the box of sunlight from Qui-am-er, the eagle, and dashed it down on the rocks, letting the light out into the world.

— The Warmspring Indian legend of the fox and the spirits. (Ibid., 1910, xxxix, 94-98.) Poem. Tells how the crafty fox, Lute-si-ah, made Whool-wool, the lark, inform him how to signal for the spirits, and how he visited the little daughter he had lost, in the spirit-land.

Libbey (O. G.) The proper identification of Indian village sites in North Dakota: A reply to Dr Dixon. (Amer. Anthropol., Wash., 1910, n. s. xii, 123-128.)

Lipps (O. H.) The co-education of

Indians and whites in the public schools. (So. Wkmn., Hampton, Va., 1910, xxxix, 152-161, 1 fig.) Records the success of the Fort-Lapwai (Idaho) co-educational school for whites and Indians (125 Nez Percés, 110 white pupils). The State Normal Schools and State University are open to Indians on the same terms as to whites. At p. 155, the word *Lapwai* is said to mean "the place where the butterflies dwell."

Loewenthal (L.) Ein irokesisches Märchen. (A. f. Religsw., Lpzg., 1910, xiii, 479-486.) Gives Mohawk text and English translation of a brief tale.—Kaniengahaka akaran, "People-of-the-hunt (i. e. Mohawk) story" of the "Great Frog" from Ms. of J. O. Brant-Sero.

Ludwick (L.) The Oneidas of to-day. (So. Wkmn., Hampton, Va., 1910, xxxix, 34-36.) Many are prosperous farmers; women are energetic and hard-working (almost all have learned lace-making), education appreciated (nearly 200 have been at Hampton; some educated Oneidas have gone abroad to teach, etc., in Canada, New Mexico, etc.), bad effects of money and liquor of whites (particularly during the last two or three years). Last summer the reservation was incorporated as a township. Author is an Oneida girl.

Manuel (V.) The Pimas: Christian Indian tribe of the Southwest. (Ibid., 161-162.) Calls attention to peaceful character of this tribe, every member of which belongs to some church, and all the children go to school. The Pima "were tillers of the soil before the first paleface discovered this country." According to M., who is a Pima, the name *Pima* comes from *pimatre*, "I don't know," in the language of these Indians.

Marelli (C. A.) La complicación y sinostosis de las suturas del cráneo cerebral de los primitivos habitantes de la República Argentina. (Rev. d. Mus. de La Plata, Buenos Aires, 1909, xvi, 353-487.) Detailed study of sutural complication and synostosis (complication, obliteration; influence of complication, metopism, sex, age, cephalic index, cranial capacity, deformations and anomalies, etc., on obliteration) in the skulls of Argentinian Indians, with comparisons with material from other races, and refer-

ences to the literature of the subject (Ribbe, Frédéric, etc.). The crania investigated number some 600 including 91 Araucanian, 86 Calchaquí, 306 Patagonian, 13 Ona and Yamana, 14 Toba, 1 Guaycurú, 1 Guayaquí, 1 Mataco and 2 Tereno. Complication and age seem not to have direct influence upon the synostosis of the cranial sutures. Influences of metopism, sex (less capacity and a finer cranial type have their effect here also), cephalic index (extreme variations of the index are correlated with analogous variations of ossification; synostosis increases with dolichocephaly, and is retarded in hyper- and ultrabrachycephaly), cranial capacity, deformations and anomalies are found. Greater or less capacity is accompanied by less or greater ossification respectively; deformation by an accentuation of synostosis due to plagiocephaly and changes of ossification parallel with the cephalic index in artificial deformation. The groups studied are characterized by simplicity of serratation of the two upper divisions of the coronal suture (exocranial), quite different from the Indo-European skull, when we find here so often the *pars complicata*. Three sorts of beginning of obliteration occur (temporal, vertex, obelion).

Mead (C. W.) South American. (Anthrop. Pap. Amer. Mus. Nat. Hist., N. Y., 1910, IV, 307-312, 1 pl., 3 figs.) Notes on recently acquired specimens. Schmidt and Weiss collections from Baniva Indians of Rio Isana (hut-building, cassava-products, implements used in making *farinha*, *tapioca* and *caxiri*; Furlong Patagonian collection (some 100 specimens; Yahgan spears and basketry; Ona arrow-maker's outfit complete; Tehuelche material. Also decorated paddles from the Madre de Dios and the Rio Beni; prehistoric nose-ornaments from Yarumal, Antioquia (Colombia).

Mochi (A.) Appunti sulla paleontologia argentina. (A. p. l'Antrop., Firenze, 1910, XL, 203-254, 12 figs., 1 pl.) Discusses the evidence as to the antiquity of man in the Argentine, and gives the results of the author's studies of the crania of Arrecifes, Chocori, Miramar (La Tigre), Necochea, etc. That other than quaternary man existed in Argentina is not yet proved, the human origin of some of the

objects in evidence being still doubtful. The Arrecifes cranium is of the Lagoa Santa type corresponding to quaternary European skulls of Galley Hill, Engis, Brunn, etc., being not specially "American" in type. The Chocori cranium corresponds to a part of Verneau's platydolichocephalic Patagonian type and to the quaternary Cro-Magnon of Europe. Ameghino's *Homo Pampaeus* (Miramar, Necochea) suggests relationship with the quaternary European type of Chancelade and Combe-Capelle, and with the Eskimo,—it may, indeed, be termed *pre-Eskimoid*, and in relation to the simian stocks, *Hapaloid*. S. doubts that Ameghino's *H. caputinus* is a new species; also his *H. sinmento*.

Montgomery (H.) "Calf Mountain" Mound in Manitoba. (Amer. Anthrop., Lancaster, Pa., 1910, N. S. XII, 49-57, 5 figs., 1 pl.)

Recent archeological investigations in Ontario. (Trans. Canad. Inst., Toronto, 1910, IX, Repr., 12 pp., 8 pl.) Gives results of 4 excavations in the so-called "serpent mound," in the township of Otonabee, Peterboro co., with lists of copper (axe, spear, knife; "thin sheet of native silver and copper greatly resembling the pieces of naturally mixed silver and copper seen in northern Michigan), stone (scraper, "banner-stone," adze, gouges, celts, slate spear and arrow-heads, flint and chert scrapers and arrow-heads, limestone bird "amulet") objects, pottery (sherds, pipe), cowry shell from Pacific ocean, flat, circular piece of lead ("nearly similar to the few leaden discs which have been found in Wisconsin"), etc. Prof. M. concludes that the earthwork in question is an artificial mound intended for the burial of the dead; it is of prehistoric date (ca. 1000 years old); no evidence of contact with whites. The skeletal remains and the character of the artifacts indicate that "these Ontario mounds are closely related to those of Ohio." They were perhaps built by the Hurons.

Morice (A. G.) The great Déné race. (Anthropos, St Gabriel-Möding, 1910, I, 113-142, 419-443, 643-653, 13 pl., 38 figs.) Continuation of monograph on Athapaskan tribes. Treats of hunting (criterion of tribal status, fur-bearing game of Dénés, modes of hunting,

chase, impounding, decoying, snaring, beaver-hunting, observances of the hunter, game laws and etiquette), fishing (fishes and fish-names, ichthyophobia in the south among Navahos and Apaches, fish-nets, fish-traps, other fishing methods, fishing observances), berry picking and preserving, esculent roots and plants, occupations of Hupa women (food-gathering and preparation), sheep-tending and agriculture among the Navahos, occupations according to seasons among Dénés of the North, travel and transportation (snow-shoes, and snow-shoeing), sledges (until about a century ago "women-sledges only were known among the northerners," their dogs being unfit for draught), and sleighing, hauling, canoes and navigation (sails now used, but not before advent of whites; no truly native name for "sail" in Déné tongues), commerce (home transactions, intertribal commerce, aboriginal middlemen, native currency of *hiquas* or *dentalium*), the trading companies and their relations with and influence upon the Indians, modern currency of the fur-trade, etc.

Morley (S. G.) The inscriptions of Naranjo, northern Guatemala. (*Amer. Anthropol.*, Wash., 1909, N. S., XI, 343-362, 1 fig.)

Nelson (N. C.) The Ellis Shell-mound. (Univ. of Calif. Publ. in Amer. Arch. & Ethnol., Berkeley, 1910, VII, 357-426, 25 pl.) Gives results of investigations of 1906-1907 of the Ellis Landing mound near Richmond, San Francisco Bay, the largest of over 400 in this region, with descriptions of human remains (the mound, used from the beginning for burial purposes, and from 3,000-4,000 years old, must have contained several thousand skeletons,—from the portion excavated 160 more or less complete were obtained), artefacts, etc. (about 630 implements, weapons, ornaments, etc., of stone, bone, antler, shell; meager indications of pottery and textiles), etc. Whatever peoples (if more than one) dwelt upon the mound, "were all essentially of the same type of culture (no important breaks) and the last occupants . . . were probably Indians similar to those that lived in Middle California within historic times."

— Shell mounds of the San Francisco Bay region. (*Ibid.*, 1909, VII, 309-

356, 3 pl., map.) Résumés results of investigations of 1908; on the map are located 425 separate accumulations, but at greater distances from the shore many more evidently exist and earlier the number must have been larger still. The mounds range from a basal diameter of 30 to one of 300 feet; in height from a few inches to 30 feet; the typical outline is oval or oblong. The bulk of the mound-material is made up of the soft-shelled clam," and the "soft-shelled mussel." The condition of the animal bones found suggests the absence of the dog. The burial of human bodies seems to have been by interment rather than cremation (occasional evidence of latter), group burials being not uncommon. The material culture is "neolithic," and there are certain minor local variations. On its positive side, in its broader features, this culture "conforms to that of the late Indians of the surrounding territory roughly designated as Middle California." Some of the mounds are at least from 3,000 to 4,000 years old; the mound-territory could have contained 20,000 to 30,000 persons.

Newton (E. A.) Some observations on Indian education. (*So. Wkman.*, Hampton, Va., 1910, XXXIX, 281-293.) Argues that "the logical plan to be pursued by the Government" is "preparation for the gradual assimilation of Indian children by State school systems." The Indian should first be taught "what he needs to know"; and initiative should be brought out in the Indian child. Character must be educated.

Nordenakiöld (E.) Meine Reise in Bolivia 1908-1909 (*Globus*, Brnswchw., 1910, XCVII, 213-219, 13 figs.). Contains notes on the Añlusay (in many of their villages no white man has ever been seen; they now count some 10,000 souls); Tapiete ("a Guaranized Chaco tribe"; deaf-mute signs collected); Chané (many legends obtained; Arawakan "half-culture" in E. Bolivia); Yanáygua (partly-wild Tapiete); the wild Tsirákua of the Rio Parapiti and Rio Grande region, with very low culture (Samucan family; artefacts obtained); Yuracaré and Chacobo (good collections made); Movima and Chimane, the latter closely related to the Mosetenes; Trinitarios (civilized); Guaráyús; Chiriguano, etc. Mounds

of the Rio Yvari region, graves, etc., with urn-burial (later culture; the older buried the dead simply laid out straight). The secret language in use among the Chané is Arawak, showing their pre-Guaranian speech. Important archeological finds were made in the Caipipendi valley. Altogether N.'s collections, ethnographic and archeological numbered some 11,000 specimens.

Sind die Tapiete ein guaranisierter Chacostamm? (Ibid., 1910, xcviii, 181-186, 6 figs., map.) Ethnological notes (houses, ornaments and dress, *tembela*, food, implements, tattooing, language, etc.) on the Tapiete (Tapii, Tapuy), an Indian tribe of the region between 20° and 21° 30' S. lat. and 62°-63° W. long. in Bolivia, with a sketch-map of the distribution of the Indians of the Bolivia-Argentina border-region. According to N. the Tapiete belong culturally with the Mataco, Choroti, Toba, etc., although they now speak Guaraní; they are, in fact, "a Guaranized Chaco people."

Spiele und Spielsachen im Gran Chaco und in Nordamerika. (Ztschr. f. Ethnol., Berlin, 1910, XLII, 427-433, 12 figs.) Describes "dice-games" (in detail) on the Lengua, Choroti and other Chaco tribes; "hockey" of the Matacos; racket ball game of the Chiriguano; "buzz," "bean-shooter," "bull-roarer," tops, stilts, etc., are noted as in use among one or other of the Chaco tribes. References to the corresponding games in Culin's monograph (Rep. Bur. Amer. Ethnol., 1902-1903) are given. Some (if not most) of the dice-games of the Gran Chaco Indians have Spanish or Quechuan elements. The *tapa* game, with astragalus bones, is of Spanish origin. In the Mataco "hockey" sometimes 50 Indians take part. N. is preparing a monograph on S. American Indian games.

Nordenskjöld (O.) Från danska Syd-västgrönland. (Ymer, Stockholm, 1910, xxx, 17-46, 12 figs.) Account of visit in 1909 to Danish S. W. Greenland. Pages 33-41 treat of the Eskimo (houses and settlements, trade, education, social life, etc.) As to race-mixture, N. observes, "all the individuals of importance in the modern development of Greenland are of mixed blood."

Nuttall (Z.) The Island of Sacrificios. (Amer. Anthrop., Wash., 1910, N. S., XII, 257-295, 11 pl., 1 fig.)

Odum (H. W.) Religious folk-songs of the Southern Negroes. (Amer. J. Relig. Psychol., Worcester, 1909, III, 265-365.) Forms Chapters I-II of a projected volume on *Negro Folk-Song and Character*. Numerous specimens are given, and content discussed. Treatment of God, Jesus, Satan, Hell and Heaven, reference to religious and other historical characters, mother and other relatives, sinners of various sorts, calamities and afflictions, Bible references, etc. The songs here considered "are distinctly the representative average songs that are current among the negroes of the present generation," and they "are as distinct from the white man's song and the popular 'coon songs' as are the two races." These songs are "beautiful, childlike, simple and plaintive." The "spirituals" current now "are very much like those that were sung three or four decades ago." Little trace of original African songs can be found in the songs of today. Spontaneous and individual compositions are common. This monograph is a valuable addition to the literature of the folk-lore of the American negro.

O'Donnell (S.) People of the puckered moccasin. (So. Wkman., Hampton, Va., 1910, XXXIX, 439-440.) Notes on name (*Ojibwa* or *Chippewa* means "people of the puckered moccasin"), art and ornament, activities, religion (great and less spirits; summer-taboo of legend-telling; *medewin* still has influence) relations with whites, etc. Author is a Chippewa woman of Mahnomen, Minn.

Orchard (W. C.) Notes on Penobscot houses. (Amer. Anthrop., Wash., 1909, N. S., XI, 601-606, 3 figs.)

Penobscot collection. (Anthrop. Pap. Amer. Mus. Nat. Hist., N. Y., 1910, IV, 282-284, 4 figs.) Notes on recent acquisitions: birch-bark vessels with ornamentation, wood-carving (decorated cradle-board), splint basket, hair-brush, metate and muller.

Outes (F. F.) Informe sobre la IVª reunión del Congreso Científico (1º Panamericano) Santiago de Chile, 25 de diciembre de 1908 á 5 de enero de 1909, presentado al Señor Presidente de la Universidad. (La Univ. Nac. de La Plata en el IVº Congr. Científ., Buenos Aires, 1909, 41-46, Repr.) Brief report to President of University

on the First Panamerican Scientific Congress, held at Santiago, Dec. 25, 1908-Jan. 5, 1909. Contains (pp. 44-46) alphabetical list of papers by authors not connected with the university.

Comunicación preliminar sobre los resultados antropológicos de mi primer viaje á Chile. (Ibid., 216-221.) Gives results of anthropological expedition to Chile in February-April, 1908. Dr O. measured 50 male natives of Chiloe (av. stature 1,603 mm., av. cephalic index 80.90), 2 male and 7 female Alacalufs (av. stature of males 1,597 mm., females 1,511; av. cephalic index of males 78.96, females 81.31), and 11 female and 3 male Onas (av. stature of males 1,781 mm., females 1,577; av. cephalic index of males 76.52, females 80.25). Color of skin and eyes are also given. An interesting male cranium (ceph. ind., 72.41) from the Guaitecas is, and a female skull (ceph. ind., 78.40) from the same locality, are described (p. 219).

et Bücking (H.) Sur la structure des scories et "terres cuites," trouvées dans la série pampéenne et quelques éléments de comparaison. (R. d. Mus. de La Plata, Buenos Aires, 1910, xvii, 78-85, 1 pl.) Supplement to previous memoir (see *Amer. Anthrop.*, 1909, N. S., xi, 808). Gives descriptions and microphotographs of the lava of Monte Hermoso and the material under discussion, also of the loess of Monte Hermoso and the material in question from Chapadmalal, in comparison with scoria of maize sweepings, scoria produced in the laboratory, and the material in question from Los Talas. The artificial human origin of the scoria and "terra cotta" is disproved.

Parker (A. C.) Iroquois uses of maize and other food plants. (Educ. Bull. N. Y., No. 482, N. Y. S. Mus. Bull. 144, Albany, 1910, 1-119, 31 pl., 23 figs.) This valuable monograph, after briefly treating of maize, or Indian corn, in history, early records of corn cultivation among the Iroquois and cognate tribes, deals with Iroquois customs of corn cultivation (pp. 21-36), ceremonial and legendary allusions to corn (36-40), varieties of maize used (41-43), corn-cultivation terminology (44-45), utensils employed in the preparation of corn for food (45-58), cooking and

eating customs (59-65), foods prepared from corn (66-86), uses of the corn plant (86-88). Pages 89ff. treat of the use of beans and bean-foods, squashes and other vine vegetables, leaf and stalk foods, fungi and lichens, fruit and berry-like foods, food ants, sap and bark foods, food-roots. A welcome feature is the giving (in phonetic transcription) of the Iroquois names of foods, articles, processes, plants, and parts of plants, implements, etc., concerned (a good contribution to philology, and the author gives them in the Seneca dialect, for one reason because "the Seneca are the most conservative of the Iroquois and remember more concerning their ancient usages").

Pennsylvanien zur Zeit Penna. (Globus, Brnswg., 1910, xcvi, 189-190.) Cites items concerning the Delaware Indians of Pennsylvania in the time of Penn from E. Heuser's *Pennsylvanien im 17. Jahrhundert und die ausgewanderten Pfälzer in England* (Neustadt, 1910).

Perkins (G. H.) Aboriginal remains in the Champlain valley. (*Amer. Anthrop.*, Wash., 1910, N. S., xii, 607-623, 9 pl.)

Peterson (C. A.) A possible father for Sequoya. (Ibid., 132-133.)

Pierini (F.) Mitología de los Guarayos de Bolivia. (*Anthropos*, St Gabriel-Mödling, 1910, v, 703-710.) First part of article on the mythology of the Guarayos of Ascensión, Bolivia. Principal figures are *Tupa* or *Tumpa* (higher good spirit), *Abaangui* and his brother *Zaguaguaya*, and *Candir*. *Mbiracucha* (evidently Quechuan *Viracocha*, also appears as *Mbiracucha*) made the land of the Brazilians, *Abaangui* that of the Guarayos, *Candir* that of the negroes. *Abaangui* in the legends comes to figure as the chief progenitor to the neglect of the rest. The journey to the land of ancestors is described with some detail.

Pittier (H.) Costa Rica-Vulcan's Smithy. (*Nat. Geogr. Mag.*, Wash., 1910, xxi, 494-524, 32 figs.) Some of the illustrations (pottery-making) are of ethnologic interest.

Pratt (R. H.) The Indian no problem. (*Proc. Del. Co. Inst. Sci.*, Media, Pa., 1909, v, 1-21.) Cites examples of Indian acceptance and successful maintenance of white civilization (e. g. Dr

- Carlos Montezuma, a full-blood Apache, argues that civilization and savagery are both only "habits." The policy of reservations and merely Indian schools is wrong; likewise much of missionary work which keeps the Indian Indian. The Indian "must get into the swim of American citizenship."
- Prince (J. D.) A Passamaquoddy aviator. (*Am. Anthropol.*, Wash., 1909, N.S., xi, 628-650.)
- The Penobscot language of Maine. (*Ibid.*, 1910, N.S., xii, 138-208.)
- Radin (P.) The clan organization of the Winnebago. A preliminary paper (*Ibid.*, 209-219).
- Reproduction of the ruins at Mitla, Mexico. (*Amer. Museum J.*, N. Y., 1910, x, 95-101, 4 figs.) Describes the reproduction of the south chamber and chamber of the grecques and the court of the quadrangle of the grecques in the restaurant of the museum. The stained glass windows represent pre-Columbian mythologic figures from an ancient Codex.
- Richards (J. E.) The Y. M. C. A. secretary for the Sioux. (*So. Wkman.*, Hampton, Va., 1910, xxxix, 150-152, 1 fig.) Account of Stephen Jones, an Indian now Secretary of the Y. M. C. A. among the Sioux, having under his charge some 60 Associations, from Poplar, Montana, to Santee, Neb.
- Rivet (P.) Note sur deux crânes du Yucatan. (*J. de la Soc. d. Américanistes de Paris*, 1908, N. S. v, 251-259, 4 figs.) Treats, with details of measurement, description, etc., two skulls exhumed in 1907 by M. de Périgny at the church of Chichanha in southern Yucatan and now in the collection of the Anthropological Laboratory of the Museum of Natural History (adult male; child of 5 to 6 years). The index of the adult skull is 93.16 and it does not seem to have been deformed. The type is antithetic to that of Lagoa Santa. To the list of Yucatecan skulls available for comparison should be added the cranium from Progreso studied by Boas (*Proc. Amer. Antiq. Soc.*, 1890).
- Recherches anthropologiques sur la Basse-Californie. (*J. de la Soc. d. Américanistes*, Paris, 1909, N.S., vi, 147-253, 15 figs., map, bibliogr.) Treats with details of measurements and description (stature from long bones; bodily proportions; particular bones: ribs, and vertebrae, clavicle; humerus, radius, metacarpals, coccy bone, sacrum, femur, tibia, peroneum, astragalus, calcaneum, metatarsians and phalanges), of the physical characters and crania (12 male and 3 female adult; 3 children) of the Indians of Lower California, chiefly from El Pescadero and Espiritu Santo id., all probably belonging to the Pericu tribe of the Yuman (?) stock. Altogether 188 long bones of adults and 52 of children were studied. The bones of children are treated on pages 68-70. These Lower Californian Indians are characterized by absence of platycnemia, a high pilastric index, low relative length of the neck of the femur and low torsion, marked sexual dimorphism, greater robusticity of the proximal over the distal segment of both limbs, stature below the average. The average cranial capacity is 1,438 c. cm. for males and 1,325 for females; average cephalic index, males 66.15, females 68.50. According to Dr R. the Indians in question were of quite limited distribution in the Lower Californian area; they are closely related to the South American type of Lagoa Santa and present likewise marked resemblances with the hypsistenocephalic race of Melanesia and Australia. Ten Kate's view of a resemblance between the skulls of Lower California and those of Lagoa Santa, set forth in 1884 is thus confirmed.
- Roe (W. C.) A broom factory for Winnebago Indians. (*So. Wkman.*, Hampton, Va., 1910, xxxix, 459-460.) Suggests such a plant as likely to help much in the renaissance of these Indians. One of the leading members of the tribe has already begun making and selling brooms on a small scale; and the region is well-adapted for raising broom-corn.
- de la Rosa (G.) A propos de la redécouverte de la ville antique de Choquéquirao sur la rive droite de l'Apurimac, Pérou. (*J. de la Soc. d. Américanistes de Paris*, 1908 [1909], N. S. v, 261-264.) Cites references to the "famous Inca city" of Choquéquirao ("cradle of gold"),—the name does not occur earlier than the close of the 17th century,—and its reported discovery in 1909 by Prof. H. Bingham of Harvard [Yale].
- Sapir (E.) Two Paiute myths. (*Mus.*

- Journ., Univ. of Pa., Phila., 1910, I, 15-18.) English texts of the Stratagem of Wood Rat and The Contention of Sparrow Hawk and Gray Hawk, obtained from Tony Tillobashi, a young Palute Indian from S. W. Utah. Many myths were gathered from this source and the author intends to publish a volume of Palute texts, with translations, etc.
- An Apache basket-jar. (Ibid., 13-15, 1 fig.) Detailed account of a large urn or jar-shaped basket (decorated), from the Arizona Apache, said to have taken two years in the making. An idealized form of the smaller and less profusely decorated flat-bottomed basket jar used by the Apache for storage purposes.
- Takelma texts. (Anthrop. Publ. Univ. of Penn., Phila., 1909, II, 1-263.) See *Amer. Anthrop.*, 1910, N. S., XII, 320, review by T. Michelson.
- and Dixon (R. B.) Yana texts. (Univ. of Calif. Publ. in Amer. Arch. and Ethnol., Berkeley, 1910, IX, 1-235.) Gives native text with interlinear and free translations, explanatory notes, etc., of 9 myths in the central dialect, 4 in the northern, beside 9 items concerning manners and customs, all by Dr Sapir; also 2 myths in the northern dialects and 13 Yana myths. (pp. 209-235), collected by Dr Dixon. Among the principal figures are coyote, blue-jay, pine-marten, loon, buzzard, heron, lizard, fox, grizzly, woodpecker, wood-rat, rabbit; the flint people, the goose people; the rolling-skull. This is a decided addition to the mythological literature of the Yana stock. In Curtin's *Creation Myths of Primitive America* (Boston, 1903) are printed "thirteen Yana myths, some of which are closely parallel forms of myths published in this volume," but neither names of informants nor places where the materials were obtained are given by Curtin. Curtin's version of "the theft of fire" and that obtained by Dr Sapir are interesting for comparison.
- Sapper (K.) Der Feldbau mittelamerikanischer Indianer. (Globus, Brunschwg., 1910, xcvii, 9-10.) Treats of agriculture among the Central American Indians,—grubbing and "Pflanzstockbau" (not Hackbau, as the role of the hoe is not great here). Central American agriculture is attended to by the men,—the Caribs, however, where the "agriculturalists" are women, are a South American people. Dr S. believes that for the South American Indians, negro and South Pacific peoples, where agriculture is largely the concern of women, it was invented by them; but in C. America, in all probability man has been the inventor.
- Schmidt (M.) Szenenhafte Darstellungen auf alt-peruanischen Geweben. (Z. f. Ethnol., Berlin, 1910, XLII, 154-164, 10 figs.) Treats of scenes represented on ancient Peruvian fabrics from Pachacamac in the Museum für Völkerkunde in Berlin (old Tiahuanaco style with human figures; boat-scene on cotton fabric; picture-writing; plantation-scenes; mythologic motifs; animals helping to build a house, etc.) S. thinks that the loom, the plant-motifs and the mythological coincidences with E. Asia, suggest trans-Pacific origins.
- Schrabish (M.) Indian rock-shelters in northern New Jersey and southern New York. (Anthrop. Papers Amer. Mus. Nat. Hist., N. Y., 1909, III, 139-165.) Notes on rock-shelters in Passaic co. (Upper Breakneck, Pompton Junction), Morris co. (Pompton Plains, Towakhow), Rockland co. (Torne Brook, Torne Mt., Ramapo river, Pound Hill, Mine Hill), Orange co. (Tuxedo, Horstestable Rock, Goshen Mt.). The frequenters of these shelters were all Algonkian Indians,—those of northern Jersey the Minsi division of the Lenapé, those of the Ramapo Mt. shelters either Minsi or Mohegans, but the determination of the boundaries between the two is difficult. Since 1900 the author has discovered altogether 17 such shelters, 9 in New Jersey and 8 in New York. The remains found in some indicate great frequenting by Indians; those with a northern exposure invariably show few signs of former occupation. All are situated near water. They seem to have been "used only temporarily and chiefly during the hunt." A succession of culture-horizons is indicated in all. See Harrington (M. R.).
- Seler (E.) Die Tierbilder der mexikanischen und der Maya-Handschriften. (Z. f. Ethnol., Berlin, 1909, XLI, 784-846, figs. 415-653; 1910, XLII, 31-97, 242-

287, figs. 654-1005.) Continuation of detailed study of the figures of animals in the Mexican and Maya Mes.: Birds (eagle, vulture, owls, moose-bird, turkey, *Yacocah mut*, quail, grouse, dove, heron, etc.), reptiles, etc. (crocodile, tortoise, lizard, serpents, rattlesnake, frog, toad, fishes), insects, etc. (butterfly, beetles, grasshopper; the "bee" of some authorities is according to S., a beetle, of some sort; spider, scorpion, centipede; wingless insects, larvae, worms), crabs, snails, shell-fish, etc.

Bericht über die Reise Dr Kissenberth's. (Ibid., 1909, xli, 965-968.) Notes on Dr K's travels among the Carayá and Cayapó Indians of the Araguaya region in Central Brazil in 1909. The Tapirapó were also visited. Some 300 ethnological objects (including 22 mask-costumes) were collected. In the Cayapó village of Mekaron-kotukikre a great dance-festival was witnessed. Many excellent photographs were obtained.

Costumes et attributs des divinités du Mexique selon le P. Sahagun. (J. Soc. d. Amér. de Paris, 1908 [1909], N. S., v, 163-220, 14 figs.) First part of Sahagun's account of the costumes and attributes of Mexican deities. Translated from E. Selser's "Ein Kapitel aus dem Geschichtswerk des P. Sahagun," in *Veröff. aus dem Kgl. Mus. f. Völkunde*, 1890.

Antrittsrede. (Stegber. d. k. preuss. Akad. der Wiss., Berlin, 1909, xxxiii, 867-870.) Treats of the study of the languages and civilizations of the ancient peoples of Mexico and C. America, with references to the work of Buschmann, A. v. Humboldt, Förstermann, and the patronage of the Duc de Loubat, and the progress hitherto made in interpreting manuscripts and explaining the significance of statues, monuments, etc.

Seljan (M. a. S.) Drei südamerikanischen Sagen. (Globus, Brunschwig, 1910, xcvi, 94-96.) German texts only of "Los Penitentes" (origin of snow-figures resembling human form), "Lake Ipacaray (origin through curse of woman, whose daughter had died of thirst), and "Jandira" (tale of a cacique's daughter), from Punta de Vacas, the Itararé (a tributary of the Paranápanema), L. Ipacaray, etc., in the Paraguay-Brazil-Argentine border region (Tupí-Guaraní area).

Tupí und Guaraní. Eine theokosmogonische Indianerlegende. (Ibid., 1910, xcvi, 160-161.) Gives German text of tale of brothers Tupí and Guaraní, a legend of fratricide (cf. Cain and Abel), obtained from the Indians of the Rio Maracá, a tributary of the Amazon. Tupí became the ancestor of the Pitiguarás, Tupinambás, Tabajarás, Cahetes, Tupiniquás, and many other tribes; Guaraní became ancestor of the Guayanás, Carijóes, Tapés, etc.

Shimer (H. W. and F. H.) The lithological section of Walnut Canyon, Arizona, with relation to the Cliff-dwellings of this and other regions of Northwestern Arizona. (Amer. Anthrop., Wash., 1910, N. S., xii, 237-240, 4 figs.)

Shufeldt (R. W.) Examples of unusual Zúfian pottery. (Rec. of Past, Wash., 1910, ix, 208-212, 3 figs.) Describes two rather unique jars obtained in 1885 in the Pueblo of Zúfi. One of these is elaborately decorated but is a crude piece of work, made perhaps by some little girl (the make is modern, but the reliefs archaic in style of pattern, etc.). The other, with "scarified" ornamentation, may likewise be the work of an unskilled potter.

Skinner (A.) The Winnebago Indians of Wisconsin. (So. Wkmm., Hampton, Va., 1910, xxxix, 217-221, 4 figs.) Notes on name, history, dress and ornament, religion (still held to ancient beliefs; two families converted to Christianity and two to the "Mescal religion"), relations with whites (friendly; evil influence of whisky), moral condition (very good, "much higher than neighboring Ojibway and imported New York tribes"). Many of these Indians still live in "the primitive semi-global mat-houses."

A visit to the Ojibway and Cree of Central Canada. (Amer. Museum J., N. Y., 1910, xi, 9-11 figs.) Gives account of trip of the summer of 1909 among Ojibwa and Cree of Lac Seul, Ft. Osnaburgh (on L. St. Joseph), Ft. Hope, the Albany river, etc. Notes on shaman, influence of white culture (few practice primitive culture); author offered Indian girl by father (medicine-man). According to S., Ojibway once lived further to the south, and since coming north they have not only given up many of the

manners and customs of the typical Ojibway of the south, but have also taken on some of the customs of the Eastern Cree. In addition they have "evolved some new points of culture distinctively their own."

Iroquois material. (Anthrop. Pap. Amer. Mus. Nat. Hist., N. Y., 1910, IV, 278-281, 2 figs.) Notes on recently acquired specimens: Onondaga "false faces," Seneca witch masks, elk-horn war-club (fine example but non-Iroquoian in design and form, being decidedly Siouan), ornamented burden-strap, Seneca bowls, etc.

Cherokee collection. (Ibid., 284-289, 4 figs.) Notes on winnowing-basket, pottery, rattles, clothing, weapons, ceremonial objects (arm-scratcher, dance-wand, masks), dice-games, etc., from the Eastern Cherokee of North Carolina.

Wisconsin Winnebago collection. (Ibid., 289-297, 1 pl., 7 figs.) Notes on skin-tanning, ear-rings, hair-dress, moccasins, leggings, other garments, garters, head-dress, bead belts and cross-belts, medicines, utensils and appurtenances of shamanism, (bag, rattle, doll, etc.), ball-game (lacrosse rackets), cup-and-ball game, tomahawk pipe, etc.

The Lenapé Indians of Staten Island. (Ibid., 1909, III, 1-62, 12 pl., 5 figs., map.) Notes on 24 archaeological sites, descriptions of specimens (stone implements, hammerstones, rubbing or polishing stones, knives, drills and scrapers, banner stones, plummets, stone mask, bone and antler tools, pottery, pipes, copper, trade articles; history and ethnography of Staten Island (pp. 29-38); cultural reconstruction (pp. 38-58). The prehistoric culture of Staten Island was "identical with that of the Algonkin Lenapé, Hackensacks, Raritans and Tappans of the historic period." The archaeological remains, as a whole "differ from those of the Mahican of the Hudson valley and the tribes speaking Algonkin dialects in New England and Long Island in a number of ways." Iroquois traces are faint.

Archeology of Manhattan Island. (Ibid., 111-121, 9 figs.) Notes on arrow-points, net-sinkers, stone implements of various sorts, gorget, "banner-stones," bone and antler implements, awls, etc., pottery (two rare methods

of design). On 214th St., near East River, "a splendid and nearly perfect Iroquoian vessel of great size was found in 1906."

Archeology of the New York Coastal Algonkins. (Ibid., 211-235, 6 figs.) Notes on chipped articles (arrow and spear points, knives, scrapers, drills), rough stone articles (hammerstones, netsinkers, hoes, hand choppers, axes, celts, adzes, gouges, pestles, millers, grinders, polishing stones, sinew stones, mortars, pigments, paint-cups, plummets, masks, knives, beads), polished stone articles (gorgets, amulets, banner-stones, pipes, steatite vessels), pottery pipes and vessels, metal beads, articles of shell (wampum, pendants, scrapers, potter stamps, etc.), fossils, articles of bone and antler (awls, needles, arrow points, harpoons, beads and tubes, worked teeth, turtle shell cups and rattles, cylinders, potter stamps, etc.), trade articles. During historical times the Delaware, Wappinger and Montauk occupied this area, and the remains found indicate no very great geological antiquity,—the oldest remains in every case are Algonkian. Absence or scarcity of steatite vessels, long stone pestles, gouge, adze, and plummet and the abundance and character of bone and pottery articles indicate that the local Indians were "intermediate in character between the Lenapé on the south and west and the New England tribes on the east and north."

Smith (De Cost). Jean François Millet's drawings of American Indians. (Century, N. Y., 1910, LXXX, 78-84, 5 figs.) Reproduces, with notes, etc., pictures of Indian and frontier life made by Millet under the inspiration of Bodmer, the Swiss artist, who had been in America among the Indians of the Canadian Northwest. In 1852 4 lithographs, of which parts were due to Bodmer, were published. One was called "Simon Butter," and later "The Indian Mazepa."

Smith (H. I.). A visit to the Indian tribes of the Northwest Coast. (Amer. Museum J., N. Y., 1910, X, 31-42, 7 figs.) Treats of expedition of summer of 1909. Kwakiutl of Alert Bay (burial in tree-tops still in vogue; even Christian cemetery burials show traces of old customs; totem poles, etc.); Kwakiutl of Rivers Inlet (potlatch

with labor-agitation); Bella Coola (chipped implements marking the farthest north of art of chipping stone in British Columbia; wooden representatives of "coppers" and canoes in native cemetery; carved posts); Tsimshians of Skeena and Nass rivers, etc.; Tlingits of Wrangell (totem-poles, carved grave posts and mortuary columns; Chilkat blankets). See Taylor (W. S.).

— Fire-making apparatus. (So. Wknn., Hampton, Va., 1910, xxxix, 84-94, 6 fgs.) Describes various methods of producing fire: The fire-plow (Polynesia, Papua, Australia), fire-saw (usually bamboo; Malay Archipelago, Farther India, etc.), fire-drill (American Indians, Africa, Ceylon, and a large part of Australia; simple among Thompson Indians of British Columbia; string-drill of Ojibwa; pump drill of Iroquois; complicated forms of string-drill, bow-drill of Chukchee and Eskimo); flint and iron ("strike-a-light"), fire-syringe (Malaysia, Farther India), use of tinder, slow-match, friction-matches, optical fire-making lens or mirror, electricity, etc.

— Archeological remains on the coast of northern British Columbia and southern Alaska. (Amer. Anthropol., Wash., 1909, N. S., XI, 595-600, 2 pl., 2 fgs.)

— An unknown field in American archeology. (Bull. Amer. Geogr. Soc., N. Y., 1910, XLII, 511-520.) Treats of the area stretching from the Gulf of Mexico to the Arctic Ocean and occupying most of the country between the Mississippi valley and the Coast Range.—"darkest archeological America," the character of the peoples inhabiting it, their culture, etc. An interesting part of this area is the region of Wyoming in which numerous archeological discoveries have recently been made (new type of steatite pot; stone circles; prehistoric quarries; pottery; boulder figures, petroglyphs, etc.)

— Ancient methods of burial in the Yakima valley, Washington. (Amer. Antiq., 1910, XXXII, 111-113.) Notes on rock slide graves (Naches river, Nez Percé region) and cremation circles.—these may be "the caved-in remains of earth-covered burial lodges, built somewhat on the plan of the semi-underground winter-houses."

— British Columbia and Alaska. (Anthrop. Pap. Amer. Mus. Nat. Hist., N. Y., 1910, IV, 298-299, 1 pl., 1 fg.) Notes on recently secured specimens, including two Chilkat blanket pattern-boards from Kluckwan. Other specimens secured by Mr Smith were 22 paddles from Alert Bay, a Nutka cedar-bark hat, etc.

Saethlage (E.) Zur Ethnographie der Chipaya und Curuhé. (Z. f. Ethnol., Berlin, 1910, XLII, 612-637, 4 fgs.) Treats of the two Tupian tribes of Pará (Brazil), the Chipaya and Curuhé. Dwellings (*malocas*), culture-relations (furniture, implements, food, hammocks, mats, clothing and ornament, hair-dress, feather-ornament rare, no tattooing, blue-coloring of lips, native weapons only bows and arrows; good boat-builders, preparation of food; fishing with *timbo*; monogamy general; treatment of sick; sensitiveness to cold marked; dances and ceremonies to receive strangers), relations with other tribes and whites, language (vocabulary of some 225 words, with many corresponding items in Yurúna and Mundurukú; also a few personal names). The Chipaya differs much from the Curuhé, the latter resembling more the Mundurukú. See Koch-Grünberg (T.).

Speck (F. G.) Some uses of birch bark by our eastern Indians. (Univ. of Penn. Mus. J., Phila., 1910, I, 33-36, 6 fgs.) Notes on Penobscot birch-bark canoe, pack-basket, cooking-vessels, "moose-call"; decorative designs (e. g. the double curve motif, rendered complex by added interior modifications in the center and at the sides.—the symbolism seems at first obscure).

— Notes on the Mohegan and Niantic Indians. (Anthrop. Pap. Amer. Mus. Nat. Hist., N. Y., 1909, III, 181-210, 4 pl., 4 fgs.) Treats of history (only 100 now left, none pure-blood; negro strain), local traditions (tale accounting for Papoose Rock), material life (wooden mortars, spoons, bowls, knives, pipes; basketry still manufactured of several types; bows and arrows; food; skunk-hunting), clothing and ornaments (women's leggings alone preserved), customs, etc. (clans and relationship-terms; burial; dance; green corn dance; death-song), shamanism (witch-tales, etc.; medical herbs), beliefs and folk-lore (dwarfs; ghosts,

will-o'-the-wisp; scraps of folk-lore), myths (3 brief tales of Tódnámi, the trickster). On pages 205-206 the Scaticook Indians (14 now left) are briefly considered and on pages 206-210 the western Niantic formerly dwelling s. e. of the Mohegan on Long Island sound (outside of possible survivors among the Brothertons of Wisconsin, one woman is all of the tribe now living, —from whom the information here given was chiefly obtained).

Stefánsson-Anderson Arctic Expedition (Amer. Museum J., N. Y., 1910, x, 133-138, map.) Gives data in letters from Herschel Id., Aug. 22, and camp near Toker pt., Oct. 16, 1909. Contains a few notes on Eskimo.

Swanton (J. R.) Some practical aspects of the study of myths. (J. Amer. Folk-Lore, Boston, 1910, XXII, 1-7.)

Taylor (W. S.) Results of an art trip to the Northwest Coast. Mural decorations planned to show Indian industries. (Amer. Museum J., N. Y., 1910, x, 42-49, 2 figs.) Gives account of author's visit to Wrangell and Kluckwan to obtain material and sketches for a mural painting representing the weaving of the Chilkat blanket; and to Masset for a similar purpose in regard to the art-occupations of the Haida Indians. Also notes on the natives of the places visited. See Smith (H. I.).

Torzer (A. M.) and Allen (G. M.) Animal figures in the Maya codices. (Pap. Peab. Mus. Amer. Arch. & Ethnol., Harv. Univ., Cambr., 1910, IV, 273-372, 39 pl., 24 figs.) Synoptic consideration of the meaning and occurrence of animal forms, zoological identification and ethnological explanation of animal forms. Covers much the same ground as the similar work of Seler (q. v.) but treats with more detail of the Maya side of the question. Dr Seler concerning himself more with the Mexican. The authors utilize the material in the stone carvings, stucco figures, fresco, etc., as well as that in the Maya Mss.

"Turning Kogmolik" for science. (Amer. Museum J., N. Y., 1910, x, 212-220, map.) Treats of the Stefánsson-Anderson expedition to the Kogmolik Eskimo of the Mackenzie delta and eastward, the leaders of which are now living "as Eskimo" among the Eskimo. At Coronation gulf and on Victoria Land to the north are "tribes wholly

uninfluenced by the white race." Since 1906 the Eskimo of the Mackenzie delta, who would then hardly take pay for anything, have changed so that now "an Eskimo seldom remains permanently satisfied with the most liberal pay for services." Many photographs, a large series of head-measurements, data concerning the ceremonial language of the shamans, records of songs and tales, specimens, etc., are among the results of the expedition.

Uhle (M.) Peruvian throwing-sticks. (Amer. Anthropol., Wash., 1909, N. S., XI, 624-627, 3 pl.)

Uhlenbeck (C. C.) Ontwerp van eene vergelijkende vormleer van eenige Algonkin-talen. (Verh. d. k. Akad. v. Wetensch. te Amsterdam, Afd. Letterk., 1910, N. R., D. XI, No. 3, pp. v, 67.) Sketch of the comparative morphology of Ojibwa, Cree, Micmac, Natick, and Blackfoot, based on Baraga, Wilson, Lacombe, Horden, Maillard, Rand, Elliot, Trumbull, Tims, Müller, Sowa, Schoolcraft, Hultburt, Cuog, Adam, etc. Nouns, pronouns, and verbs are considered.

— Zu den einheimischen Sprachen Nord-Amerikas. (Anthropos, St. Gabriel-Mödling, 1910, v, 779-786.) Adds to data in previous article on the literature of North American Indian languages further titles concerning Athapaskan, Algonkian, Siouan (notes on Catawba from Gatschet), Muskogean, "Astecoid" (notes on Luiseño from Sparkman), Mariposan (Kroeber on Yokuts), Moquelumnan, Washoan (Kroeber), etc.

Upham (W.) The Kensington rune stone, its discovery, its inscriptions and opinions concerning them. (Rec. of Past, Wash., 1910, IX, 2-7, 2 figs.) Treats of alleged rune stone, discovered in August, 1898, by a Swedish farmer, about 3 miles N. of Kensington station on the Minneapolis, St. Paul, and Sault Ste Marie R. R., Douglas co., Minnesota, purporting to be the record of an exploring expedition of Norsemen from Vineland in the year 1362. The stone is now in the Museum of the Minnesota Historical Society. According to Mr H. R. Holand and others, this is a genuine runic record; but the proof has not convinced many others.

Valentine (R. G.) The United States Indian Service problem. (So. Wkmm.,

- Hampton, Va., 1909, xxxviii, 678-683.) Address by Commissioner of Indian Affairs. Emphasizes need of corps of inspectors, real superintendents, and proper attention to health, schools, and industries. Stealing from Indians by whites must be made as much a breach of the moral code as the reverse.
- Vom Tocantins-Araguaya.** (Globus, Brunschwig, 1910, xcvi, 379-382.) Résumé, from the *Mouvement Géographique*, L. Thiéry's account of his 1901-1902 expedition in the Tocantins-Araguaya region of Brazil. Contains a few notes on the Carayá (p. 382) and Cayapó. The bad effects of contact with the whites (especially for Indian children) are noted. The Dominican missionaries among the Cayapó are praised.
- Waterman (J. T.)** The religious practices of the Diegueño Indians. (Univ. of Calif. Publ. in Amer. Arch. & Ethnol., Berkeley, 1910, viii, 271-358, 8 pl.) See *Amer. Anthropol.*, 1910, N. S., xii, 329-335, review by J. P. Harrington.
- Hudson Bay Eskimo. (Anthrop. Pap. Amer. Mus. Nat. Hist., N. Y., 1910, iv, 299-307, 8 figs.) Notes on new collection from this area: specimens from old house-sites; three-pronged fish-spear; sewing implements; mouth-piece for drill-apparatus; decorated hair-ornament (notable variation in type); comb; *nuglatang* game; types of ornament.
- Will (G. F.)** Some new Missouri River Valley sites in North Dakota. (*Amer. Anthropol.*, Lancaster, Pa., 1910, N. S., xii, 58-60.)
- Willoughby (C. C.)** A new type of ceremonial blanket from the Northwest Coast. (*Ibid.*, 1-19, 4 figs., 2 pl.)
- Wilson (G. L.)** Sinew arrowheads. (*Ibid.*, 131-132, 1 fig.)
- Wissler (C.)** Publications on the Indians of the Northern Plains. (*Science*, Lancaster, Pa., 1910, N. S., xxxii, 562-564.) Notes on Dr R. Lowie's *The Northern Shoshone* (1909) and *The Assiniboine* (1909) embodying investigations of 1906-1908; also Dr C. Wissler's *The Material Culture of the Blackfoot Indians* (1910). All are publications of the American Museum of Natural History (N. Y.).
- Wolterbeck (K.)** Indianer von Heute. (Globus, Brunschwig, 1910, xcvi, 90-91.) Notes on the reservation Indians of the United States (Pueblos, Navahos, Sioux, etc.), class of old and new civilization, work of the "Women's National Indian Association," Indian Schools (visited by author), etc.
- Aus dem Leben eines Sioux-Indianers. (*Ibid.*, 128-130.) Notes (from oral and written data) on the life and experiences of Dr Charles A. Eastman, "Ohiyesa," personally known to the author. Dr Eastman is a graduate of Dartmouth College and Boston University (Medical). He married in 1891 Miss Elaine Goodale.
- Woodworth (E. E.)** Archeological observations in South Dakota. (*Amer. Anthropol.*, Wash., 1910, N. S., xii, 128-131, 1 fig.)
- Work of the School of American Archeology.** (Rec. of Past, Wash., 1910, ix, 162-165.) Résumé of activities from *Bulletin* for February, 1910. The San Juan valley and the Rio Grande valley are the two general regions being investigated at present.
- Wright (R. R.)** The northern negro and crime. (So. Wkmm., Hampton, Va., 1910, xxxix, 137-142.) Treats of statistics (difficulty of finding accurate basis for comparison), analysis of offenses (numerous convictions for petty offences hardly equal a conviction for a very serious offense. Historically negroes have had to prove their innocence. Credibility of negro witnesses has been often impeached. The crimes of the poor are generally their vices, which affect them more than they do the rest of the community. Poverty suffers even before justice.
- Yoffie (L. R.)** Yiddish folk stories and songs in St. Louis. (Washing. Univ. Rec., St. Louis, 1910, v, 20-22.) Stories are of two kinds, religious (dealing usually with the wonder-working power of a rabbi in some little Russian town,—the tales about Bal Shem Tov, the "Master of the Good Name," are legion; also leviathan stories, and tales of the river Sambatian in "Never never never Land"; there is a proverb, "even the river Sambatian rests on the Sabbath").
- Zaborowski (S.)** Découverte, par M. Engerrand, d'une station de la pierre au Mexique. (*Bull. Soc. d'Anthr. de Paris*, 1910, vi^e s., 1, 6-7.) Résumés, from the publication of the Geological Society of Mexico, M. Engerrand's

account of his discovery near Concepcion, in the State of Campeche, of a "station" of the stone age, "representing the quaternary man of this region." The flints are numerous and of Chellean and Achulean type.

— Les métissages au Mexique, (Ibid., 48.) Notes, after M. Engerand, that in the State of Yucatan, with a total population of only 200,000 there are now 600 Javanese families and a number of Koreans, besides Chinese.

ANTHROPOLOGIC MISCELLANEA

Franz Nikolaus Finck.—In the recent death of Dr Franz Nikolaus Finck, Professor of General Linguistics at the University of Berlin, the science of language has lost its foremost scholar. Suddenly stricken down

by disease of the heart in the period of his most fruitful activity, Professor Finck lived to see his name and work ranked with the highest in the history of linguistics.



Franz Nikolaus Finck.

Professor Finck was born at Crefeld in 1867. He studied at the universities of Munich, Paris, and Marburg, receiving his doctor's degree at Marburg in 1896. He was docent in comparative philology at Marburg University from 1897 until 1901. His connection with Berlin University began in 1903; at that institution he was first docent and later Professor of General Linguistics. From 1907 he was also in charge of the department of Oceanic languages in the Oriental Seminary at Berlin.

Professor Finck's unusual gift as a linguist found its first expression, not in scientific, but in poetic form. In 1891, before he commenced his university studies and largely as an expression of his thoughts during five years of military service, a little volume of poems was published by him at his home city, Crefeld. The poems show decided talent and great command of language. Examine, for instance, "Die Blätter im Herbstwind," "Du,

mein einziger Gedanke," or "Herbstgedanke." In the same year appeared a second volume of verse entitled *Von der Riviera*, and in 1893 *Weltfremd—Weltfreund* was published, the latter showing that Finck was strongly under the influence of Nietzsche's philosophy. Although almost too reflective and philosophical these poems have found many admirers. The *Blätter f. lit. Unterhaltung* (1893, No. 37) says: "Darin erinnert er an die schönsten Erzeugnisse der philosophischen Dichtung Schillers"; *Görlitzer Anzeiger* (1892, No. 263) says: "Der Versbau ist elegant, der Inhalt tief sinnig und gedankenreich"; *Hamburger Fremdenblatt* (1892, Oct. 31) remarks: "Der gewandte und elegante Versbau erscheint durchaus als das Werk eines phantasievollen Dichters, der tief sinnige Inhalt dagegen lässt auch den gedankenreichen Philosophen leicht erkennen."

The university life seems to have directed Finck's talent from verse to the study of languages. No more poetry was published. But the talent did not wane, nor was it lost or wasted in the new field.

Tearing himself free from the restraints and artificialities of university life, he spent the year previous to his graduation living among the peasants of the Aran islands off the west coast of Ireland, where he studied and recorded the Gaelic language as still spoken there.

During the years of his Marburg docentship he obtained with his remarkable memory a smattering of the most diverse languages and became conversant with what has been done in the philosophy and psychology of language. During this period his two best-known essays were published: *Der deutsche Sprachbau als Ausdruck deutscher Weltanschauung*, 1899, and *Die Klassifikation der Sprachen*, 1901. These essays are full of new and original thoughts about language. Finck with his poet-mind gives us an insight into language which it will take science with its laborious methods generations to make permanent. According to these essays language is not a mere medium of communication; it lays fetters upon the human mind, and again, assists it in its soarings. Language study was to Finck, now a phase of philosophy, now a phase of ethnic psychology.

At times during this Marburg period Finck lived among the gypsies, learning their language and customs. At the close of this period his interests became as broad as the human race. He was a linguist with the interests of both philosopher and ethnologist.

In 1900 he decided to go to Armenia and the Caucasus, a region in which such linguistic diversity as probably once existed elsewhere in Europe still obtains. During the two years spent there Finck acquired a speaking knowledge of Armenian. His *Lehrbuch der neuostarmenischen Literatursprache*, 1902, has been pronounced a model short grammar, a treatment which a

brief grammar of any language may well imitate. Finck studied Armenian because it is the least known of the Indo-Germanic dialects. His attention spread from this language to the fifty-four almost unknown aboriginal dialects of the Caucasian Mountains. He became known to German scholars especially as a student of Caucasian.

His Caucasian studies established two important facts concerning those languages:

1. They confirmed Von Erckert's opinion that the fifty-four diverse languages are all genetically related. We may therefore speak of the Caucasian linguistic stock.

2. In a letter to the writer, penned only a few weeks before his death, Professor Finck states his opinion concerning the relationship of this stock to others—an opinion which will be of great interest to ethnologists and one which has, as far as I can learn, not been published. It is therefore quoted in full. "Was die Frage verwandtschaftlicher Beziehungen des Kaukasischen zu anderen Stämmen anbetrifft, so scheint mir eine solche zum Ural-Altaischen und Indogermanischen nicht gerade ausgeschlossen, aber auf jeden Fall nicht bewiesen zu sein und, was schlimmer ist, auch kaum beweisbar. Weit eher würde ich auf eine Entdeckung von Spuren der alten, eigentlich kaukasischen Kultur rechnen. Aber auch solche Entdeckungen dürften noch in einiger Ferne liegen; und mir scheint, für uns handelt es sich zunächst darum, mit den auf anderen langdurchforschten Gebieten wie dem indogermanischen erprobten Mitteln ähnliches wie dort zu erstreben. Schon heute darüber hinauszugehn, ist wohl kaum möglich."

Among Professor Finck's later works of general scope are: *Die Aufgabe und Gliederung der Sprachwissenschaft*, 1905; *Specielle Sprachengeographie*, 1907; *Die Sprachstämme des Erdkreises*, 1909; and *Die Haupttypen des Sprachbaues*, 1910. *Der Ursprung der Sprache* and the great *Armenische Grammatik* are soon to be published posthumously. Arrangements have been made by which the School of American Archaeology will obtain the Caucasian work of Professor Finck which has not been published.

Professor Finck is generally appreciated as a poet, philosopher, linguist, and ethnologist. I wish to say a few words about him as a man. As a teacher he gave his time freely to his students. His natural gifts, his enthusiasm, his blunt, fearless manner, his humor, his indefatigable industry, even his knowledge of his own power, were an inspiration to all that knew him. Great is the pity that he did not live longer and did not commit to writing more of the rare combinations which arose in his trained mind.

I add a complete list of Dr Finck's publications, which his sister, Frau Dr Gjandschezian, has kindly compiled especially for this article in the *American Anthropologist*.

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JOHN P. HARRINGTON

Ethnology at the Annual Meeting of the Nebraska State Historical Society.—The annual meeting of the Nebraska State Historical Society January 9-11, was successful in point of quality of program and interest manifested. A part of the meetings were held in conjunction with the Nebraska Territorial Pioneers' Association. The historical papers read covered a wide range, among the speakers being Mr James Mooney

of the Bureau of American Ethnology, Edgar R. Harlan, curator of the Historical Department of Iowa, Dr Benjamin F. Shambaugh, President of the Mississippi Valley Historical Association, and Mr Harold J. Cook.

Ethnology was given a conspicuous place on the program and the society was fortunate in having present Mr Mooney, who spoke on "My Life Among the Indian Tribes of the Plains," "The Indian Woman," and "Systematic Nebraska Ethnological Investigation." The first lecture was illustrated by many Indian pictures, and the talk on the Indian woman was so simple, practical, and new that it was received with enthusiasm. An interesting and rather unique feature of the ethnological part of the program was "Folk Songs of the Omaha Indians, Interpreted," by Professor Melvin R. Gilmore of Cotner University. Original records secured by Professor Gilmore were produced on the phonograph and the harmonized version given on the piano by Miss Edna Wright. Mr Robert F. Gilder spoke on "Nebraska as an Archeological Field."

A part of one session consisted of a meeting of school children and the the program was arranged especially for them. An illustrated talk, "Life on the Omaha Indian Reservation," was given by Professor Gilmore and two Nebraska history stories were told by Mrs Minnie P. Knotts, librarian for the society. Believing that the time to create a lasting interest in state history is during childhood, the society is doing everything possible to encourage the telling of history stories in the public schools and elsewhere.

The Nebraska State Historical Society is giving especial attention to ethnological study and investigation. The society is at present without a curator for its museum, but has several applications under consideration. Plenty of time is being taken in the selection in order that a man especially equipped for the particular field may be secured. An archeological reconnaissance is being planned for the next summer and those especially interested in this field will be invited to join the party.

C. S. PAINE.

The International School of American Archeology and Ethnology.—The following account of this important movement is taken from a recent number of *Science*:

"The International School of American Archeology and Ethnology was inaugurated in the City of Mexico on January 20. The founding patrons of the school are the government of the United States of Mexico, the government of Prussia, Columbia University and Harvard University. The University of Mexico has placed at the disposal of

the school rooms in which classes may be held, and will facilitate access to libraries, museums, institutes, and other scientific centers in which are pursued studies like those of the school, and will aid in the support of the school with an annual subsidy of \$6,000. Each patron will in turn appoint and pay a director of the school, and will also allot fellowships which will be sufficient to cover the expenses of board and lodging and transportation of a fellow. In accordance with the statutes the government of Prussia has appointed as director Professor Eduard Seler, Director of the Section of Anthropology and Archeology in the Royal Museum at Berlin, who has already made extensive researches in Mexico. He will hold office for one year, and will be aided by Professor Franz Boas, of Columbia, during his presence in Mexico as Professor of Anthropology at the National University. Two appointments to fellowships have been made, Dr Werner von Hürschmann by Prussia, and Miss Isabel Ranives Castañeda by Columbia University.

"All the explorations and studies of the school are to be subject to the laws of the country in which the work is undertaken, and all objects found in investigations or explorations will become the property of the national museum of the country in which the studies are carried out. In case similar specimens of the same kind of object are discovered duplicates will be given to the patrons who supply the necessary funds for the exploration. Most of the explorations will be conducted in the rich fields of Mexico, and the government of that country has already given the necessary authorization for the investigations which will soon be begun and are certain to produce interesting and valuable results."

The Nebraska Society of Ethnology and Folklore.—The "Nebraska Society of Ethnology and Folklore" was organized at Lincoln, last November. The following officers were elected: President, Hutton Webster, Professor of Social Anthropology in the State University; Vice-President, R. F. Gilder, of the Omaha *World-Herald*; Secretary-treasurer, A. E. Sheldon.

The field of the society's activity will be limited to an investigation of the Indian culture within the borders of the state and of the considerable material relating to European folklore found in the German, Bohemian, and Scandinavian population. At least one annual meeting will be held.

HUTTON WEBSTER.

At the Summer School of the University of Washington, Mr John P. Harrington of the School of American Archaeology gave two courses in Anthropology. One of these courses was entitled "The Indians of the Northwest"

and in it especial attention was given to the Indians of the State of Washington. The other course was a general introduction to the science of language. Quoting from the university catalog: "This course presents the chief facts about the science of language, facts which every student of any language ought to know. It embodies the material contained in the most recent German lecture courses and books on die Sprachwissenschaft." During the session of the Summer School and during three weeks after the Summer School closed, Mr Harrington studied the language and ethnology of the Duwamish and Suquamish tribes of the vicinity of Seattle. One of the features of this latter work of popular interest is the settling of the much disputed question as to whether Mt Ranier is rightly called Mt Tacoma. It was discovered that the ancient Duwamish name for Mt Ranier is Takhóbed. There therefore appears to be no just reason for not following the precedent already established by the people of the city of Tacoma and calling this famous peak Mt Tacoma.

ACCORDING to information printed in the *Geographical Journal*, the Austrian African traveler, Herr Otto Arnbauer, set out in October with the intention of making his way into the Tibesti region between Fezzan and Wadai—the portion of Africa which best deserves the epithet "dark" in our own day. He is accompanied by an Austrian artillery officer, First Lieutenant Emil Kraft von Helmhacker. The leader is an Arabic scholar and is also master of a number of African dialects, besides possessing ethnographical and geological qualifications. His companion will undertake the cartographical work and meteorological observations. The new expedition is well equipped, and provided on the one hand with presents likely to be held in esteem in that region, and on the other with serviceable weapons. After completing their proposed examinations of Tibesti, the travelers hope to cross Wadai by a route leading well east of Lake Chad, though should the state of affairs in that country make this impossible, they will take the easier way towards the Kamerun.

THE DUKE OF LOUBAT, well known as a generous patron of archeological research in America and in Europe, was the recipient of many congratulations and remembrances on the occasion of his eightieth birthday, January 21. In December last the Duke received the Leibnitz Gold Medal in acknowledgment of his services to archeological research. His most notable services to American archeology are the foundation of professorships in American archeology in Columbia University and in the universities of Paris and Berlin; and the foundation of international

prizes for research relating to pre-Columbian America. Recently, in the cause of humanity, he established in the Academy of Inscriptions and Belles Lettres at Paris an annuity of three thousand francs to be distributed by the Academy for the temporary relief of scientists brought to a standstill in their work by illness or lack of resource, and for the relief of families left in distress by the death of investigators while carrying on their work.

THE following is among the "University and Educational Intelligence" in *Nature*, Feb. 9, 1911:

"The report of the committee for anthropology [at the University of Oxford] for the year 1910, just presented to Convocation, contains a record of continuous and healthy development of the study in Oxford. The salary of the curator of the Pitt-Rivers Museum has been raised from 200l. to 500l. per annum, and a readership has been founded in social anthropology, to which the secretary to the committee, Mr R. R. Marett, Fellow of Exeter College, has been appointed. A large number of lectures have been delivered in the course of the year under the general heads of physical anthropology, psychology, geographical distribution, prehistoric archaeology, technology, social anthropology, and philology, besides special lectures for Sudan probationers, and addresses on the art of prehistoric man in France, by M. Emile Cartailhac."

A MEETING of the Anthropological Society of Washington was held December 20, 1910, at which Mr Paul Radin of the Bureau of American Ethnology gave an account of the "Winnebago Winter Feast." At the January meeting, held on the 17th of that month, Dr A. A. Goldenweiser of Columbia University addressed the society on "The Totemic Complex," and Dr Truman Michelson of the Bureau of American Ethnology read a paper on "The Medicine Arrows of the Cheyenne." On February 21 Dr Daniel Folkmar occupied the evening with "Some Questions arising in the first Census of European Races in the United States."

BEGINNING with Jan. 1, 1911, Mr C. M. Barbeau has been appointed Assistant in Anthropology on the Geological Survey of Canada. Mr Barbeau has pursued anthropological studies at Oxford University for the three years 1907-10 as Rhodes Scholar for the Province of Quebec. He has prepared, in connection with his work at Oxford, an extended study on "Some Aspects of the Totemism of the Northwest Coast of America." At present Dr Sapir and Mr Barbeau have under way a "Selected Bibliography of Canadian Physical Anthropology, Archeology, and Ethnology."

At a joint meeting of the American Ethnological Society of New York and the Section of Anthropology and Psychology of the New York Academy of Sciences, January 30, 1911, a paper was read by Dr Pliny E. Goddard on the "Distribution and Relationship of the Apache." February 27 Dr Robert H. Lowie presented a paper on "Women's Societies of the Missouri Village Tribes."

FROM the *Museum Journal* of the University of Pennsylvania it is learned that before his Canadian appointment was accepted Dr Sapir had been engaged in preparing a study of Paiute mythology and a grammar of the Paiute language. In spite of the necessarily exacting nature of his new engagements it is hoped that a volume of Paiute mythology will be ready in about a year.

FROM Russian journals comes the announcement of very important archeological discoveries in and near the city of Kiev on the part of Professor Chvojka of the University of Kiev. One of the results of his work is reported to be the definite identification of the sites in this region, referred to by Herodotus and other ancient Greek writers, as early Slavic Russian towns.

AMONG the recent gifts to the American Museum of Natural History are the Lender's collection of costumes of the Plains Indians, presented by Mr J. Pierpont Morgan and a valuable collection of Navajo blankets, presented by Mrs Russell Sage.

DR CARL LUMHOLTZ has returned from a sojourn of fourteen months in the country of the Papago Indians of northwestern Sonora and southern Arizona, where he was engaged in ethnological, archeological, and geographical investigations.

DR HUTTON WEBSTER, Professor of Social Anthropology in the University of Nebraska, has been invited to read a paper on totemism before Section H of the British Association for the Advancement of Science.

PROFESSOR ROLAND B. DIXON of Harvard University, assisted by Mr W. H. Mechling of the University of Pennsylvania, is engaged in preparing the Indian volume for the United States census of 1910.

DR GUSTAV RETZIUS, formerly professor of anatomy at Stockholm and noted also for his anthropological investigations has been appointed a foreign knight of the Prussian order pour le mérite.

SIR FRANCIS GALTON, eminent for his contributions to geography, meteorology, biology, anthropology, and psychology, died on January 18, at the age of eighty-eight years.

A MEMORIAL in marble to the late Sir John Evans, the anthropologist, has been placed in the parish church of Abbot's Langley, Herts, where he lived for sixty years.

THE Società Italiana d'Antropologia, Etnologia e Psicologia of Florence, has elected Dr Aleš Hrdlička, of the U. S. National Museum, a corresponding member.

WORD has been received of the death in California of Rev. J. W. Cleveland well known for his contributions to the study of the Dakota language.

ON November 7, 1910, Professor F. W. Putnam of Harvard University was elected a Foreign Fellow of the Royal Society of Edinburgh.

THE death is recorded of Dr Alexander Schenk, Docent for Anthropology at the University of Lausanne.

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